NOAA Technical Memorandum NMFS

SEPTEMBER 1993

JAPAN'S SQUID MARKET

Sunee C. Sonu

NOAA-TM-NMFS-SWR-028

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southwest Region

NOAA Technical Memorandum NMFS

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EXECUTIVE SUMMARY

World squid catches have nearly tripled during the past two decades. Imports of cephalopods (squid, cuttlefish, and octopus) by the world's nations have also increased dramatically. From 1980 to 1990, world-wide imports of cephalopods rose nearly 130 percent in volume and well over 200 percent in value. The U.S. squid industry has room for growth depending upon how successfully it can capitalize on world-wide expansion of squid import markets. Market squid (Loligo opalescens) on the west coast, and longfin squid (Loligo pealei) and shortfin squid (Illex illecebrosus) on the east coast, are the three principal U.S. species for which opportunities exist for expanded overseas sales.

Japan, the world's largest consumer of squid, has the most important market potential for U.S. squid. Japan's imports of squid and cuttlefish in 1992 were approximately 115 thousand metric tons (mt) valued at 487 million dollars, an increase of 3 percent in quantity and 4 percent in value over 1991 imports. Imports of foreign squid into Japan are regulated. The government decrees not only the amount of annual imports but also the recipients of import quotas. Annual quotas have been maintained at around 53,000 mt or less. Because quotas are limited, importers seek items which fill special niches in the Japanese market and assure good return on investment. One such item may be U.S. market squid prepared in small packages to be sold at supermarkets. Since this is a product for direct consumption, this product form commands higher prices than when market squid is sold in bulk to processors, and it also offers the possibility for partnership with Japan's $40-billion per year supermarket industry.

The future market for sales of U.S. squid depends to a large extent on squid production from traditional producing areas, particularly the waters off New Zealand and the Falkland Islands. In 1990, landings in these waters were below normal, and as a result, carryover supplies of squid in cold storage in Japan dropped sharply, which in turn has prompted increased sales of U.S. squids. With indications that the squid stock may be declining off the Falkland Islands and with the implementation of Japan's moratorium on squid driftnet fishing, U.S. squid export potential appears favorable.

With a growing freezer trawler fleet, the United States has the capability to produce high quality frozen squid products. Additional strategies which could contribute to expansion of U.S. squid exports may include, but are not limited to, the following actions:

- Develop a stable domestic market for squid in the United States to nurture a viable squid fishing industry at home;

- Improve overseas sales efforts by recruiting services of local experts;

- Cultivate a high quality image in U.S. squid products through improved quality control for catching, handling and processing procedures.

INTRODUCTION

The objective of this study is to identify markets for U.S. squid products with special emphasis on the export potential for squid species available to U.S. fishermen.

The squid fishery is one of the fastest growing fisheries in the world. World squid production has nearly tripled during the past two decades, and is still growing in order to keep pace with the continuing rise in demand. The success of squid industries in the United States depend upon their ability to capitalize on expansion of export markets, especially in the Mediterranean countries and Japan. In 1992, sales of U.S. squid to Italy surpassed those to Japan. Still, Japan, the world's largest consumer of squid, has the most important market potential for U.S. squid.

In preparing this report, various reports and data were reviewed, and a special effort was made to provide current statistics on squid supply (e.g. catch, imports, cold storage holdings), and consumption (markets). Furthermore, efforts were made to ascertain characteristics unique to the Japanese squid market. Recommendations on strategies to expand U.S. squid sales to Japan are also presented.

WORLD SQUID FISHERIES

Between 1966 and 1990, the world squid catch nearly tripled, from 620 thousand metric tons (mt) to about 1.8 million mt. Figure 1 and Table 1 show the annual world squid catch during this period. The world squid catch climbed to 1-million mt in 1979, and has steadily increased since, reaching a level of 2.1 million mt in 1989.

To place the current state of world squid fisheries in proper perspective, it is useful to divide the history into three distinct periods. The first period which ran to about 1968, represented a period in which world squid fisheries were virtually dominated by one nation, Japan, and one species, Todarodes pacificus. For instance, the 1968 catch of T. pacificus which totaled 668,000 mt, an historical high for this species, comprised 73 percent of the total world landings of squid for that year (Table 2). Japan's share of the world catch for 1968 was nearly 83 percent.

The next six years, 1969 through 1974, was characterized by a precipitous drop in the catch of T. pacificus in Japanese waters. New fishing activity for a different squid Ommastrephes bartrami in the Northwest Pacific Ocean began in 1974 (Komrin Sha 1989), when the catch of O. bartrami was only 17,000 mt. By 1978, the catch of O. bartrami had reached 152,000 mt (Table 3).

The third period, 1975 to 1990, is characterized by a sharp climb in squid landings by countries other than Japan, whose traditional fishing grounds were in the Northwest Pacific. The fast pace of growth in squid fisheries during the past decade is generally attributed to the development of squid fisheries in several regions, particularly in the Southwest Atlantic around the Falkland Islands and off Argentina; in the Southwest Pacific around New Zealand and Australia; and in the Western Central Pacific off Thailand (Table 4). From 1975 to 1989, squid landings in these three regions increased by more than 13 fold, while landings in all other regions increased by only 43 percent. In 1989, combined squid landings in the three regions were about 1.1 million mt, or 52 percent of the world catch, surpassing the catch of 766,000 mt in the Northwest Pacific. The increase in squid catch in the Southwest Atlantic was especially impressive. In 1990, however, catches in this region declined sharply as the three major fishing countries, Japan, the Republic of Korea, and China caught only 217,600 mt, a decline of about 43 percent from 1989 (Table 5). This sharp decline was due to poor fishing as well as to a shorter fishing season decreed by the government of the Falkland Islands.

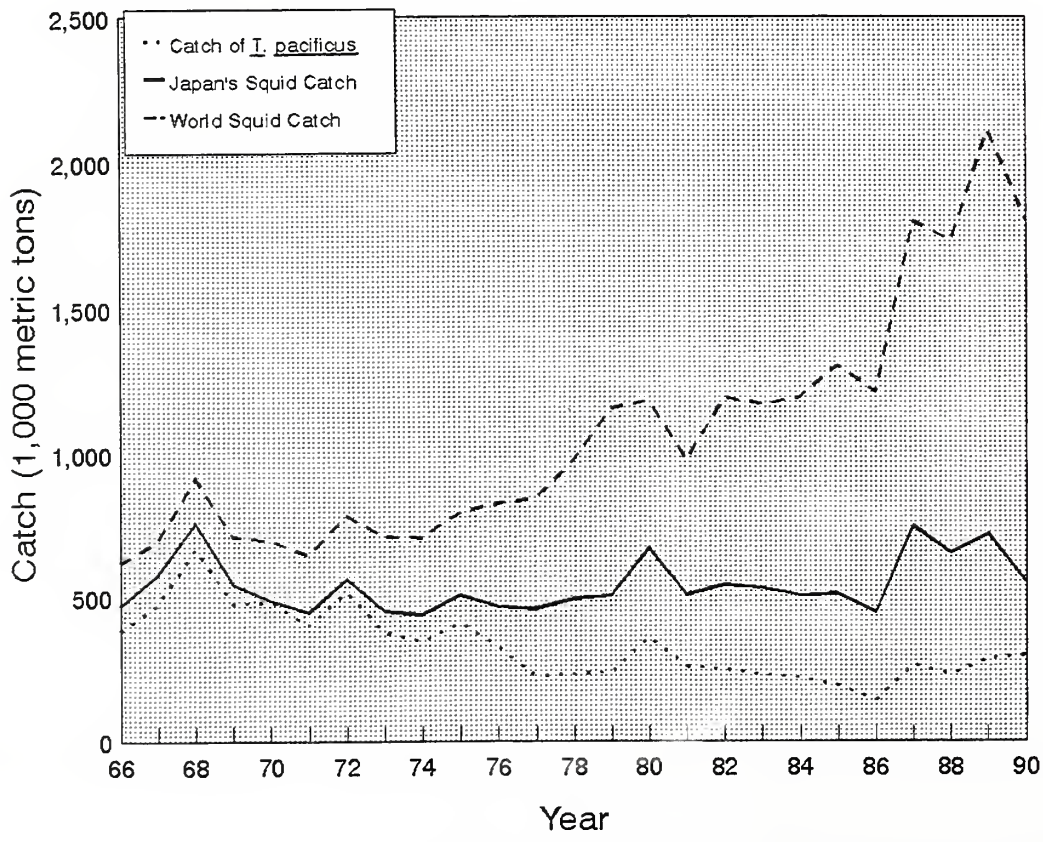

Figure 1. Annual total world and Japanese squid catches and world catches of Todarodes pacificus (Ommastrephidae), 1966 - 1990

In 1990, squid catches in the Northwest Pacific accounted for 44 percent of the world squid harvest (FAO 1992a). Approximately 48 percent of this was taken by Japanese vessels. Catches in the Southwest Atlantic, the second most productive area, made up 31 percent of global squid landings. The Republic of Korea, Russia, Japan, and China accounted for 72 percent of squid taken from that region and Spain, Argentina, Poland and Germany caught most of what remained. The Western Central Pacific was the third largest squid producing area with about 6 percent of global squid landings. The area was heavily fished by fleets from Thailand, the Philippines, Indonesia, and Malaysia. The Southwest Pacific accounted for about 5 percent of world squid landings. New Zealand landed 39 percent of squid in this area, and Russia, the Republic of Korea, and Japan caught most of what remained. Australia made less than 2 percent of the landings from this area (FAO 1992a).

A number of nations are actively engaged in squid fisheries, seeking increased export earnings as well as increased domestic food supplies (Japan External Trade Organization 1993). The number of nations with more than 20,000 mt in annual squid catch rose from two in 1966 to 12 in 1990 (Table 1). During the same period, combined landings by nations other than Japan increased more than eight fold, from about 150,000 mt in 1966 to about 1.25 million mt in 1990.

Increases in squid landings by the Republic of Korea, U.S.S.R., Poland, and Spain were particulary noteworthy during the past decade (Figure 2). Combined squid catches by these four nations rose from about 18 percent of the world total in 1981 to 36 percent in 1990. Table 6 lists nations with an average annual squid catch greater than 20,000 mt from 1986 through 1990. Japan's share of the world catch was about 36 percent, and no other nation exceeded 15 percent. The United States ranked 9th at 2.8 percent, amounting to about 47,700 mt annually.

Table 1. World squid catch by major countries, 1966-1990 (1,000 metric tons).

Country	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
Japan	469.6	581.1	758.0	544.0	487.5	446.8	563.7	451.5	439.3	507.9
Korea, Rep.	75.5	41.7	84.7	59.9	72.1	40.4	57.2	56.6	51.8	58.9
U.S.S.R.	0.5	0.8	3.2	16.3	4.6	28.5	23.2	29.8	26.1	39.6
Spain	15.6	18.0	14.5	13.8	15.6	15.6	26.1	36.2	48.4	43.8
Thailand	NA*	NA	NA	24.5	59.9	23.5	44.7	37.5	42.0	32.2
China	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Poland	NA	NA	NA	NA	NA	---**	5.4	9.6	6.7	6.9
U.S.A	1.2	1.8	1.7	10.9	12.3	15.5	10.4	6.3	13.0	9.6
New Zealand	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Philippines	11.4	9.9	17.9	13.1	12.1	12.7	7.5	15.5	21.4	30.7
Italy	7.7	6.3	6.9	6.9	7.3	7.1	7.1	6.4	7.5	7.5
Malaysia	---	---	---	---	---	0.1	---	---	---	---
Argentina	0.2	0.2	0.2	1.1	1.5	1.8	1.7	4.1	5.1	4.2
Hong Kong	1.8	1.1	1.7	3.3	3.2	2.4	3.7	3.0	3.3	4.5
France	3.7	3.8	---	6.1	8.0	12.5	9.1	13.8	3.6	4.4
Venezuela	0.5	0.7	0.3	0.5	0.4	0.8	1.2	1.7	2.2	1.6
Australia	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.2
Portugal	1.2	2.0	---	0.7	0.8	0.6	---	---	1.2	0.8
Greece	NA	NA	NA	NA	NA	1.2	1.0	1.1	0.8	0.7
Mexico	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.5
Canada	5.1	7.0	---	---	0.1	1.6	---	0.6	0.1	3.3
Others	25.6	22.2	25.6	8.5	11.1	35.5	22.6	40.9	34.1	38.7
Total	620.0	697.0	915.0	710.0	697.0	647.0	785.0	715.0	707.0	796.0

Table 1 (Continued). World squid catch by major countries, 1966-1990 (1,000 metric tons).

Country	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Japan	466.1	459.6	494.3	504.5	669.7	509.4	543.0	530.7	504.5	511.7
Korea, Rep.	73.0	38.1	41.8	48.0	69.8	83.0	83.6	77.7	96.3	122.2
U.S.S.R.	41.9	75.3	96.7	55.8	51.0	44.5	67.6	53.4	66.7	121.9
Spain	29.4	23.6	43.1	30.9	40.4	33.4	26.4	34.5	26.1	23.6
Thailand	36.2	52.3	52.1	41.8	32.9	48.0	70.6	76.5	66.3	64.0
China	35.8	40.0	62.0	42.4	43.2	28.1	49.9	53.4	54.0	53.1
Poland	7.6	3.9	6.4	26.1	13.7	19.8	109.4	110.3	113.4	96.0
U.S.A.	13.1	11.3	18.7	22.1	16.0	25.0	27.0	27.8	21.8	25.8
New Zealand	0.1	0.6	1.8	7.4	0.3	8.9	30.6	38.6	27.7	44.1
Philippines	23.6	25.0	26.1	25.5	27.0	28.0	21.0	30.7	20.3	24.6
Italy	13.2	18.5	12.0	16.1	20.6	16.4	16.4	12.1	12.3	14.9
Malaysia	0.6	1.1	0.8	12.1	9.0	12.1	9.6	10.2	10.0	9.0
Argentina	7.6	2.2	59.2	87.2	9.3	10.8	39.1	28.9	29.1	21.8
Hong Kong	6.1	4.2	5.0	6.1	4.1	5.4	5.2	4.6	5.5	4.6
France	4.8	5.0	5.5	4.8	3.5	2.6	4.5	6.1	2.8	3.4
Venezuela	1.2	1.9	0.3	0.7	0.8	0.8	1.3	1.9	2.6	1.9
Australia	0.2	0.3	0.4	0.6	1.0	1.0	1.3	1.4	1.5	1.6
Portugal	0.9	1.1	1.4	2.4	4.8	1.6	1.0	1.9	1.3	1.1
Greece	1.2	0.7	0.9	0.8	0.8	1.8	1.1	0.9	0.7	0.7
Mexico	1.0	0.8	6.8	18.4	20.4	9.8	0.4	0.3	0.7	0.7
Canada	10.9	30.5	36.0	89.6	30.4	18.3	12.3	0.1	0.4	0.4
Others	51.5	49.0	4.1	111.7	112.3	68.3	69.7	67.0	128.0	154.9
Total	826.0	845.0	975.4	1155.0	1181.0	977.0	1191.0	1169.0	1192.0	1302.0

Table 1 (Continued). World squid catch by major countries, 1967-1990 (1,000 metric tons).

Country	1986	1987	1988	1989	1990
Japan	448.6	748.0	654.2	720.0	551.7
Korea, Rep.	146.1	233.3	246.7	339.0	329.0
U.S.S.R.	114.9	103.0	118.9	195.7	222.4
Spain	66.6	62.9	48.7	74.7	56.6
Thailand	71.3	55.0	59.7	70.0	66.8
China	50.4	60.2	73.5	56.7	66.9
Poland	38.6	95.2	63.7	60.7	31.6
U.S.A.	38.1	41.3	57.7	57.9	43.5
New Zealand	31.3	44.5	32.2	105.4	36.9
Philippines	26.6	26.4	29.0	26.6	26.6
Italy	17.2	18.9	16.6	17.7	16.8
Malaysia	13.6	13.6	13.6	13.6	13.6
Argentina	12.7	51.3	20.9	23.3	27.7
Hong Kong	4.3	4.5	3.9	4.0	5.0
France	3.4	4.4	5.9	7.4	5.0
Venezuela	1.4	1.4	2.7	3.3	1.9
Australia	2.2	2.8	2.8	2.5	3.1
Portugal	1.5	3.1	3.7	10.9	7.3
Greece	0.7	4.1	4.2	5.2	5.2
Mexico	0.6	8.6	1.4	20.0	21.6
Canada	0.1	0.2	0.6	2.3	5.6
Others	120.8	217.2	270.5	294.5	255.1
Total	1211.0	1799.9	1731.1	2111.4	1799.9

* NA - Not available
** --- - Less than 50 metric tons

Sources: FAO 1969, 1972, 1976, 1981, 1984, 1989, 1990, 1992a

Table 2. Total world squid catch 1966-1990, and Japan's squid catch, 1966-1992 (1,000 metric tons).

Year	*T. pacificus*		Total		Comparison(%)	
	Japan	World(A)	Japan(B)	World(C)	A/C	B/C
1966	383	383	470	620	62	76
1967	477	477	581	697	68	83
1968	668	668	758	915	73	83
1969	478	478	544	710	67	77
1970	412	484	488	697	69	70
1971	364	402	447	647	62	69
1972	465	518	564	785	66	72
1973	334	378	452	710	53	64
1974	315	346	439	707	49	62
1975	370	411	508	796	52	64
1976	280	326	466	826	39	56
1977	208	226	460	845	27	54
1978	216	234	494	975	24	51
1979	213	239	505	1,155	21	44
1980	330	360	670	1,181	30	57
1981	197	259	509	977	27	52
1982	182	248	543	1,191	21	46
1983	192	231	531	1,169	20	45
1984	174	220	505	1,192	18	42
1985	133	192	512	1,302	15	39
1986	90	143	449	1,211	12	37
1987	183	264	748	1,800	15	42
1988	156	231	654	1,731	13	38
1989	212	287	720	2,111	14	34
1990	209	298	552	1,800	17	31
1991	242	NA*	530	NA	NA	NA
1992	352	NA	626	NA	NA	NA

* NA - Not available

Sources: FAO 1969, 1972, 1976, 1981, 1984, 1989, 1990, 1992a
Suisan Keizai Shinbun Sha October 12, 1992; June 1, 1993
Suisan Tsushin Sha June 1, 1993

Table 3. Japanese catch of Ommastrephes bartrami, 1974 - 1992 (metric tons)

Year	Driftnet	Jig	Total
1974	0	17,000	17,000
1975	0	41,164	41,164
1976	0	84,180	84,184
1977	0	121,768	121,768
1978	NA*	NA	151,307
1979	NA	NA	124,692
1980	NA	NA	144,000
1981	NA	NA	120,000
1982	108,000	55,000	163,000
1983	112,000	36,000	148,000
1984	73,000	27,000	100,000
1985	99,000	36,000	135,000
1986	85,000	23,000	108,000
1987	111,000	21,000	132,000
1988	86,000	15,000	101,000
1989	98,500	21,500	120,000
1990	103,000	33,000	136,000
1991	70,200	11,500	81,700
1992	67,500	2,600	70,100

* NA - Breakdown is not available

Sources: Zen Gyoren 1988, 1993
Kohrin Sha 1989

Table 4. World squid catch in major areas, 1966-1990 (1,000 metric tons)

Year	Northwest Pacific	Southwest Atlantic	Southwest Pacific	Western Central Pacific
1966	528.6	1.4	---*	11.4
1967	594.5	2.9	---	29.5
1968	817.0	4.1	---	47.6
1969	603.6	1.5	0.2	37.6
1970	533.3	1.3	0.1	40.3
1971	486.7	1.8	---	43.0
1972	614.9	1.8	0.1	59.7
1973	492.2	4.1	15.1	59.8
1974	450.3	5.0	19.7	70.0
1975	547.4	4.6	7.9	69.8
1976	552.5	9.2	19.7	66.8
1977	509.5	3.3	55.5	79.6
1978	549.2	74.6	92.2	82.2
1979	600.4	124.0	42.6	87.2
1980	757.4	30.8	80.0	82.9
1981	564.3	53.8	63.2	92.3
1982	639.1	208.1	70.9	84.5
1983	574.3	205.0	107.1	123.8
1984	581.2	251.3	122.4	100.7
1985	630.1	269.0	122.6	103.8
1986	498.5	351.2	100.6	109.5
1987	618.4	744.9	112.2	95.7
1988	612.6	689.5	101.9	100.8
1989	766.4	749.7	228.1	112.2
1990	783.0	550.4	95.8	110.9

* --- - Less than 50 metric tons

Sources: FAO 1969, 1972, 1976, 1981, 1984, 1989, 1990, 1992a

Table 5. Squid catches in the Southwest Atlantic Ocean by Japan, Republic of Korea, and China, 1989 and 1990 (metric tons)

Country	1989	1990	Percent Change
Japan	157,500	81,700	-48
Republic of Korea	118,800	70,900	-40
China	108,000	65,000	-40
Total	384,300	217,600	-43

Source: Nikkan Shokuryo Shinbun Sha, August 8, 1990

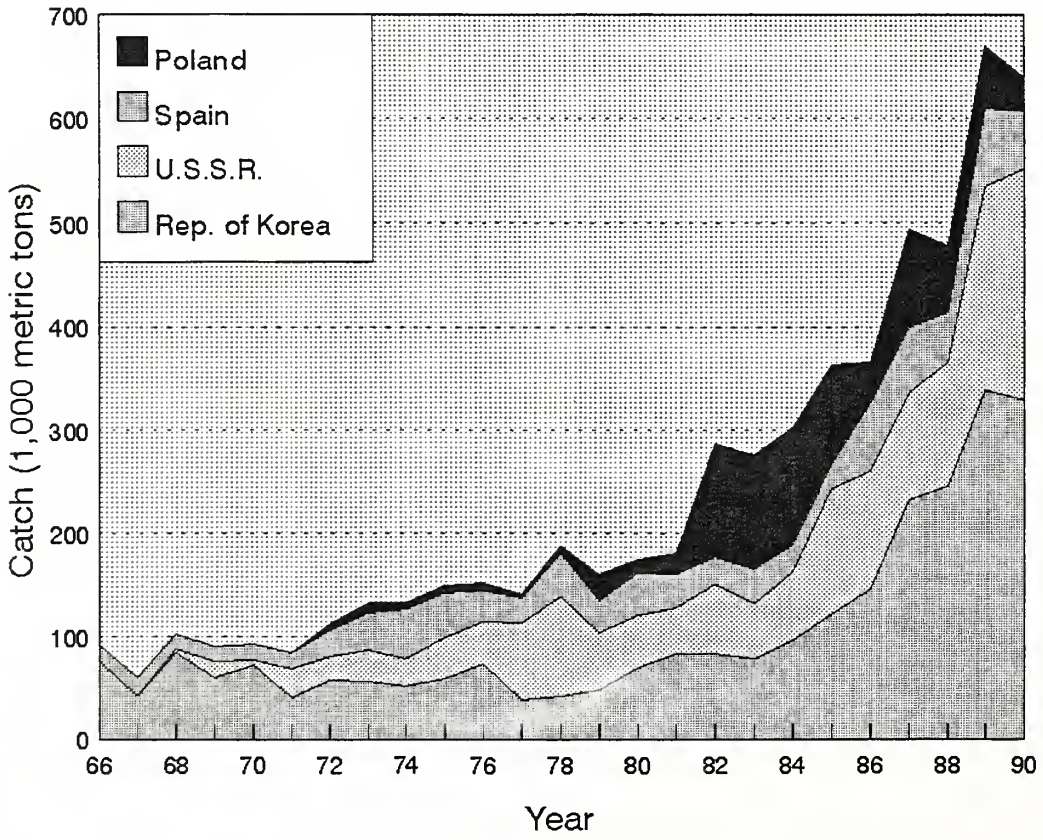

Figure 2. Squid catch by Republic of Korea, U.S.S.R., Spain and Poland, 1966 - 1990

Table 6. Five-year average squid catch by major countries, 1986-1990

Country	5-Year Average (1986-1990) (1,000 metric tons)	(% of world total)
Japan	624.5	36.1
Korea, Rep.	258.8	15.0
U.S.S.R.	151.0	8.7
Thailand	64.6	3.7
Spain	61.9	3.6
China	61.5	3.6
Poland	58.0	3.4
New Zealand	50.1	2.9
U.S.A.	47.7	2.8
Argentina	27.7	1.6
Philippines	27.0	1.6
Total	1,432.8	83.0
World total	1,730.7	100.0

Sources: FAO 1989, 1990, 1992a

JAPANESE SQUID FISHERY

Japan is the world's largest squid harvesting nation (Table 1). For more than two decades since 1966, Japan's annual squid catch has exceeded 400,000 metric tons (mt). Although Japan's share of the world total gradually decreased during this period Japanese squid fishing fleets today still account for about 31 percent of the total world production (Table 2).

The Japanese squid fishing industry pays special attention to family Ommastrephidae, the most abundant and commercially important squids. Four species of Ommastrephidae are important in the Japanese market. These are Todarodes pacificus, Ommastrephes bartrami, Nototodarus sloani, and Illex argentinus. In 1992, catches of these four species accounted for 81 percent of Japan's total squid catch (Zengyoren 1993).

Todarodes pacificus is the species most familiar to Japanese consumers and, as such, sets standards for appearance and taste for the entire market. The availability of this species essentially dictates the extent of use of other squid species. When the catch of this species is low, T. pacificus goes to the high-value direct consumption market. Conversely, when the catch is high, more of it is used in processed form, at the expense of other species (Suisan Keizai Shinbun Sha November 6, 1992).

The Japanese catch of T. pacificus steadily declined from 1968 to 1986 (Table 2). In 1968, the catch of this species, all in the Northwest Pacific, totaled 668,000 mt, a historical high, representing 88 percent of Japan's total squid landings and 73 percent of the world squid landings for that year. The catch of T. pacificus was 84 percent of total Japanese squid catches in 1970, but this dropped to 73 percent in 1975 and 20 percent in 1986. By 1986, Japanese production of T. pacificus represented only about 7 percent of the world squid catch. In 1992, however, Japan's catches of T. pacificus increased substantially to 352,000 mt, which amounted to 56 percent of the total Japanese squid catch, and was the highest for that species in 18 years.

Following the sharp decline in abundance of T. pacificus, Japan developed fisheries for O. bartrami in the North Pacific, using jigging and drift gillnet techniques in 1974 and 1978, respectively (Kohrin Sha 1993). The catch of this species grew rapidly from 17,000 mt in 1974 to a peak of 163,000 mt in 1982 (Table 3). Between 1979 and 1990, the catch of this species in the North Pacific fluctuated between 100,000 and 163,000 mt. However, the catch decreased sharply in 1991 and 1992. Lower catches will probably continue because starting in 1993, Japanese fishermen were no longer permitted to catch O. bartrami with driftnets on the high seas in the North Pacific. This action complies with the United Nations General Assembly Resolution 46-215 which mandated a global moratorium on all large-scale driftnet fisheries by December 31, 1992.

Since the implementation of Japan's moratorium on squid driftnet fishing in the North Pacific, greater effort has been made by the Japanese fishing industry to find alternative sources of supply of squid in other areas. In waters off Peru, Mexico, Ecuador, and Chile the combined catch of giant squid Dosidicus gigas was 46,352 mt in 1992 (Suisan Tsushin Sha June 24, 1993). At auctions held by the Peruvian Government in April and June of 1993, Japan received an allocation of 80,000 mt of D. gigas and 36 licenses to fish in the Peruvian Exclusive Economic Zone (EEZ) for a ten month period starting May 3, 1993 (Suisan Tsushin Sha April 12, 1993 and July 20, 1993). In April 1993, the Fisheries Agency of Japan announced its approval of the operation of about 20 vessels in an experimental jig fishery in the area where driftnet operations have been prohibited after January 1, 1993 (Nikkan Shokuryo Shinbun Sha April 27, 1993 and Suisan Keizai Shinbun Sha April 27, 1993).

Japanese fishermen began to increase the harvest of N. sloani off New Zealand in 1970 and I. argentinus off Argentina in 1978 (Kohrin Sha 1989). June through November constitutes the squid fishing season for most jig boats in Japanese waters (Zen Gyoren 1993). To extend the season, Japanese vessels fish squid from December through May off New Zealand and from February through May off Argentina (Suisan Tsushin Sha March 26, 1993 and June 24, 1993).

Annual catches of N. sloani and I. argentinus fluctuated considerably between 1980 and 1989 and reached records of 78,000 mt in 1989 for N. sloani and 240,000 mt in 1987 for I. argentinus, (Table 7). Since 1990, however, catches of these species have declined sharply, due partly to reduced numbers of vessels operating in waters off New Zealand and Argentina.

Table 7. Japan's catch of Nototodarus sloani and Illex argentinus, 1980 - 1992.

Year	N. sloani		I. argentinus	
	Catch (Metric tons)	Number of vessels	Catch (Metric tons)	Number of vessels
1980	63,000	NA*	38,000	NA
1981	40,000	NA	18,000	NA
1982	50,000	NA	35,000	NA
1983	49,000	112	25,000	NA
1984	65,000	125	55,000	NA
1985	50,000	116	77,000	NA
1986	40,000	101	95,000	107
1987	52,000	129	240,000	134
1988	53,000	83	203,000	119
1989	78,000	151	174,000	108
1990	8,680	54	83,900	99
1991	9,210	30	91,200	82
1992	7,800	10	76,000	64

* NA - Not available

Source: Zen Gyoren 1990, 1993

WORLD SQUID IMPORTS

Squid is an important commodity in the international seafood trade. Table 8 lists the major countries that imported cephalopods (squid, cuttlefish, and octopus) in 1990 and Table 9 provides the value of the imports. The 659 thousand metric tons (mt) traded in 1990 were worth 1.7 billion dollars. Japan led in total imports of cephalopods, both in volume and value; almost all its imports were in the form of frozen products. While imported volume made up only 32 percent of the world total, the value was approximately 47 percent. In imports of frozen cephalopods, Japan was followed by Italy (18 percent in volume; 17 percent in value), and Spain (18 percent in volume; 13 percent in value). On the other hand, Spain was the chief importer of fresh cephalopods, in volume as well as value. In imports of prepared products, Hong Kong led in volume (26 percent volume; 32 percent value) but Japan was the leading importer in value (14 percent volume; 34 percent value).

Table 8. Volume of squid, cuttlefish, and octopus imported by major countries in 1990 (metric tons).

Country	Fresh	Frozen	Prepared	Total
Japan	1,243	204,556	3,914	209,713
Spain	7,965	112,487	---*	120,452
Italy	1,880	112,156	1,228	115,264
France	1,159	24,927	119	26,205
Korea, Rep.	---	25,668	---	25,668
Hong Kong	---	17,335	7,340	24,675
U.S.A.	1,472	19,174	---	20,646
Singapore	---	17,332	2,006	19,338
Portugal	---	12,419	---	12,419
Greece	---	11,299	187	11,486
Other	6,282	53,041	13,440	72,764
Total, World	20,002	610,394	28,234	658,630

* --- - Less than 0.5 metric tons

Source: FAO 1992b

Table 9. Value of imports of squid, cuttlefish, and octopus by major countries in 1990 (U.S. $1,000)

Country	Fresh	Frozen	Prepared	Total
Japan	7,069	750,949	42,545	800,563
Italy	7,327	262,633	2,714	272,674
Spain	28,582	205,509	---*	234,091
Hong Kong	---	28,397	40,117	68,514
U.S.A.	4,338	51,776	---	56,114
France	1,990	47,889	646	50,525
Korea, Rep.	---	32,187	---	32,187
Greece	---	28,279	487	28,766
Singapore	---	16,922	10,249	27,171
Germany	3,965	18,752	872	23,589
Portugal	---	16,232	---	16,232
Other	6,941	76,230	26,266	109,437
Total, world	60,212	1,535,755	123,896	1,719,863

* --- - Less than 500 dollars

Source: FAO 1992b

JAPAN'S IMPORTS

Japan's imports of squid and cuttlefish in 1992 were approximately 115 thousand metric tons (mt) valued at 487 million dollars, an increase of 3 percent in quantity and 4 percent in value over 1991 imports (Table 10). Mongo-ika (Sepia officinalis, a cuttlefish) was the most important among imports. Frozen products dominated in both years and represented as much as 88 percent in volume and 74 percent in value in 1992. Prepared and preserved products accounted for about 8 percent in volume and 14 percent in value, followed by salted and dried products with about 4 percent in volume and 12 percent in value. Fresh products were less than 1 percent, mostly mongo-ika, but squid and other cuttlefish were imported fresh for the first time in 1992.

Table 11 shows major suppliers of squid (not cuttlefish) to Japan (FAO 1992a). Canada was the major supplier of frozen squid to Japan until 1981, but this changed abruptly in that year, and by 1992 imports from that country had dwindled to zero. From 1981 to 1990, squid catches by Canadian vessels decreased sharply (Table 1). From 1982 to 1990, Poland was the main squid supplier, but its exports declined by half in 1991 and stayed near that level in 1992 due to poor catches off the Falkland Islands (Table 12). Argentina was the leading supplier in 1991 and 1992, when squid catches by Argentine vessels increased sharply (Table 13). In 1992, 30 percent of Japan's import quota of fresh and frozen squid and cuttlefish came from Argentina. Both Poland and Bulgaria also

catch squid in Argentine waters and imports from these countries together with those from Argentina represented 58 percent of Japan's import quota for 1992. These countries are not substantial consumers of squid but engage in squid fisheries in order to increase export earnings (Japan External Trade Organization 1993). In 1992, United States' exports of squid to Japan remained stable, while for the first time 66 mt of squid were exported from Peru to Japan.

Other countries that exported squid and cuttlefish to Japan during 1992 included Thailand, South Korea, Morocco, and Malaysia. In all, 33 countries exported squid and cuttlefish to Japan in 1992 (Japan Marine Products Importers Association 1993).

Table 10. Japan's imports of squid and cuttlefish by product form, 1991 and 1992

Product form	Volume		Value	
	1991	1992	1991	1992
	(Metric tons)		(U.S. $1,000)	
Fresh				
Mongo ika *	98	66	544	372
Squid and other cuttlefish	0	40	0	156
Frozen				
Mongo ika	51,685	48,300	222,206	214,583
Squid and other cuttlefish	46,236	52,891	126,519	144,446
Dried/salted (squid and cuttlefish)	2,923	4,598	35,480	58,981
Prepared/preserved (squid and cuttlefish)	10,259	8,858	81,967	68,895
Total	111,201	114,753	466,716	487,433

* Mongo ika - Sepia officinalis, a cuttlefish

Source: Japan Marine Products Importers Association 1992, 1993

Table 11. Japan's imports of fresh and frozen squid by selected countries, 1978-1992 (metric tons)

Country	1978	1979	1980	1981	1982
Argentina	9,825	22,295	4,858	339	9,444
Poland	0	8,435	3,390	368	11,433
Bulgaria	644	156	0	0	0
U.S.A.	1,909	3,025	1,591	2,208	3,746
New Zealand	152	6,789	64	175	2,891
Canada	27,156	15,483	18,478	3,058	705
Total	39,686	56,183	28,381	6,148	28,219

Country	1983	1984	1985	1986	1987
Argentina	9,845	6,541	5,803	5,541	6,009
Poland	25,305	21,064	17,726	13,356	7,229
Bulgaria	0	2,310	5,110	2,194	3,724
U.S.A.	169	127	556	1,462	2,932
New Zealand	3,048	1,594	2,290	1,382	2,039
Canada	203	0	200	67	45
Total	38,570	31,636	31,685	24,002	21,978

Country	1988	1989	1990	1991	1992
Argentina	2,151	3,725	7,227	11,064	16,129
Poland	19,298	13,406	11,941	5,942	7,376
Bulgaria	2,533	10,359	11,291	10,757	7,310
U.S.A.	2,051	1,823	1,321	3,742	3,744
New Zealand	1,201	4,777	3,438	156	1,735
Canada	398	0	37	31	0
Total	27,632	34,090	35,255	31,692	36,294

Source: Japan Marine Products Importers Association 1979-1993

Table 12. Polish catch and exports of squid, 1990 - 1992 (metric tons)

	1990	1991	1992
Catch	25,000	17,000	13,000
Exports	22,000	15,000	10,000

Source: Japan External Trade Organization 1993

Table 13. Argentine catch and exports of squid, 1988 - 1992 (metric tons)

	1988	1989	1990	1991	1992
Catch	21,777	23,105	27,710	46,313	54,000
Exports	10,455	17,744	16,979	33,559	NA*

* NA - Not available

Source: Japan External Trade Organization 1993

Tariffs and Other Barriers

Japan presently maintains import quotas on 12 categories of fishery commodities, including squid and cuttlefish (Hokkai Keizai Shinbun Sha 1988). Japan has traditionally included both squid and cuttlefish under the common name squid ("ika"). This tradition continues in its trade regulations, as both squid and cuttlefish are combined in a single import quota.

A total of 7 product forms of squid and cuttlefish are listed in Japanese import regulations. These are: live; fresh; chilled; frozen; salted; brine-soaked; and dried. Product forms which are exempt from import regulations include processed squid which has been flavored, such as smoked and prepared or preserved products (i.e. canned, boiled, seasoned, or fermented products). The cuttlefish "mongo-ika" has been exempted from import quota since 1978, when the quota was removed from this highly prized species, which is not caught in Japanese waters.

Squid and cuttlefish imports were previously not allowed because domestic demand was satisfied by Japanese catches. When landings of flying squid (T. pacificus) dropped sharply in 1969,

however, Japan had to begin importing squid and cuttlefish in 1971, in order to meet strong demand for this popular seafood. Import quotas (Table 14) of squid and cuttlefish have increased several-fold since then under a carefully administered quota system because: (1) landings of domestic species have remained depressed; (2) the Japanese fleet's direct access to foreign resources has been reduced; (3) Japanese participation in overseas squid fishing joint ventures has increased; (4) squid and cuttlefish remain important seafood items in the Japanese diet.

Import quotas are set every six months, with new quotas commencing on April 1 and October 1 (Table 14). Imports generally do not exceed 10 percent of total domestic consumption of squid, and therfore are too small to influence domestic prices. Interestingly, even with import quotas it appears that the volume of imports is impacted by prices of domestic squid. When prices are low, importers have little incentive to use their alloted quotas.

Table 14. Japan's import quotas for squid and cuttlefish, 1971 - 1992 (1,000 metric tons)

Fiscal Year	April-Sept.	Oct.-March	Total
1971	3.5	3.5	7.0
1972	4.5	5.5	10.0
1973	6.0	6.0	12.0
1974	7.2	7.7	14.9
1975	7.7	8.2	15.9
1976	8.2	10.0	18.2
1977	15.0	25.0	40.0
1978	25.0	35.0	60.0
1979	40.0	36.5	76.5
1980	0	18.0	18.0
1981	0	25.0	25.0
1982	16.0	25.0	41.0
1983	18.0	20.0	38.0
1984	18.0	23.0	41.0
1985	18.0	28.0	46.0
1986	20.0	33.0	53.0
1987	20.0	33.0	53.0
1988	20.0	33.0	53.0
1989	20.0	33.0	53.0
1990	20.0	33.0	53.0
1991	20.0	33.0	53.0
1992	20.0	33.0	53.0

Sources: U.S. Department of Commerce 1989
Zen Gyoren 1993

While the Japanese Ministry of International Trade and Industry (MITI) is the lead agency in administering the quota system, it coordinates its actions closely with the Fisheries Agency of the Ministry of Agriculture, Forestry, and Fisheries. In

addition to setting quotas for imports, the government also controls the allocation among the following recipient groups:

A. Traders: Trading companies with past import history;

B. Users: Processors' associations, which usually hire traders to perform import functions on their behalf;

C. Fishermen: Owner of fishing vessels operating within foreign 200-mile zones;

D. Joint venture: For Japanese joint venture participants in which the Japanese equity exceeds 40 percent.

There is a great deal of variation in the amount of quota held by individual importers, who are reported to number more than 200. Lists of major Japanese trading firms and processors holding squid import quota allocations are given in Appendix 1. Major Japanese importers of seafood products are listed in Appendix 2.

The Japanese government does not publish the distribution of import quota allocations of squid and cuttlefish. According to data compiled by Zen Gyoren (National Federation of Fisheries Cooperatives), however, trading companies have held the largest share of quota allocations, and since 1986 this has been about 45 percent. The share of the processors associations increased to about 41 percent in 1986. The joint venture quota has been 9 percent and the fishermen's quota 6 percent since 1986 (Table 15).

Table 15. Allocation of Japanese squid and cuttlefish import quotas for recipient groups (metric tons)

Year	Traders	Users	Joint Ventures	Fishermen
1984	20,244	15,956	4,800	0
1985	21,799	18,601	5,600	0
1986	23,598	21,496	4,906	3,000
1987	23,598	21,496	4,906	3,000
1988	23,598	21,496	4,906	3,000
1989	23,598	21,496	4,906	3,000
1990	23,598	21,496	4,906	3,000
1991	23,598	21,496	4,906	3,000
1992	23,598	21,496	4,906	3,000

Source: Zen Gyoren 1990, 1993

Quota allocations can be purchased for a fee, which varies according to prevailing squid prices. The transferred import quota is, however, credited to the original holder. Since the import quota allocation is based mainly on previous import records, the system guarantees that the same holders will continue to be given allocations even if they have no intention of buying squid

themselves.

It should be noted that no quota allocations are earmarked for mass retailers such as supermarket chains and department stores. There has been a dramatic expansion in the mass-retailing business in recent years in Japan, with the advent of huge national chains of supermarkets. The chains typically maintain their own import departments which deal directly with foreign sellers.

Imports of squid and cuttlefish into Japan are subject to tariffs. As Japan and the United States are signatories to the General Agreement on Tariffs and Trade (GATT), lower tariffs apply to U.S. exports of squid and cuttlefish products: 5 percent for fresh or frozen products, and 15 percent for salted, dried, prepared or preserved products (including products in airtight containers). Tariff rates are calculated as a percentage of CIF (cost, insurance, freight) value.

SUPPLY

The Japanese supply of squid for any given year is comprised of the cold storage inventory on January 1, total catches, and imports. A relatively stable annual supply ranging between 435,000 and 475,000 mt prevailed between 1984 and 1986 (Table 16). During this period, the January inventory averaged 77,000 mt (about 17 percent of the total supply), the catch 342,000 mt (about 74 percent), and imports 42,000 mt (about 9 percent).

The dominant influence of the domestic catch on the overall squid supply in Japan was well demonstrated in 1987, when a sharp increase in catch resulted in a major glut in the squid market. While January cold storage holdings as well as imports for 1987 remained essentially unchanged from the previous years. The increase in supply in 1987 amounted to about 239,000 mt over the preceding year. This increase was almost 52 percent more than the average annual supply for the preceding three years.

Between 1988 and 1993, annual squid supplies ranged between a high of 769,000 mt and a low of 658,000 mt. During this period the January inventory averaged 207,000 mt (about 29 percent of the total supply), the catch 466,000 mt (about 65 percent), and the imports 49,000 mt (about 7 percent).

Table 16. Japanese supply and apparent consumption of squid, 1984-1993 (1,000 metric tons)

Year	Inventory (Jan. 1)	Catch	Imports	Inventory (Dec. 31)	Supply	Apparent Consumption
1984	81	352	40	65	473	408
1985	65	370	40	85	475	390
1986	85	304	46	71	435	364
1987	71	563	40	200	674	474
1988	200	476	48	185	724	539
1989	185	536	48	239	769	530
1990	239	394	53	210	686	476
1991	210	402	46	185	658	473
1992	185	510	53	220	748	528
1993*	220	480	45	200	745	545

* - Preliminary estimate

Source: Zen Gyoren 1993

CONSUMPTION

Squid and cuttlefish combined has remained the leading seafood consumed in Japan (Table 17). While demand for squid and cuttlefish is sensitive to price, they are still the most popular of all seafood products in Japan. In 1992, the average Japanese family consumed 5,733 grams (12.61 pounds) of fresh and frozen squid and cuttlefish. The number of persons represented in a household varies annually, but is about 2.91-2.97 persons. From 1990 to 1992, the average per household consumption of squid and cuttlefish rose 8 percent due mainly to a drop in price in the aftermath of a sharply increased catch of T. pacificus in 1992.

Squid is prepared in various ways for the table by the Japanese (Table 18). The most popular dish is "sashimi", which typically consists of thin slices of raw seafood, served with soy sauce and condiments. For this product, the Japanese prefer T. pacificus and N. sloani. Frozen squid steaks are used in boiled, baked, or fried form, or included as an ingredient in other dishes. Squid is also used in dried, salted and smoked form. Illex argentinus is preferred for salted, salted and fermented, or dried products, and for frozen whole squids for home cooking. In 1992, more than half of major squid species were consumed as unprocessed products (Table 18). The variety of processed squid products available today is a relatively recent development. Historically, squid was simply dried, but usage in this form amounted to only 9 percent of major squid species in 1992.

Table 17. Japanese annual per household consumption of fresh and frozen fish and shellfish by major species or groups, 1990-1992.

Species	Quantity (gram)			Price (yen per 100 gram)		
	1990	1991	1992	1990	1991	1992
Cuttlefish & squid	5,290	5,410	5,733	107.27	111.60	103.16
Shrimp	3,340	3,344	3,478	236.18	243.04	235.92
Tuna	3,010	3,151	3,360	276.51	277.23	280.27
Saury	2,325	2,599	2,770	75.59	74.68	68.86
Jack mackerel	2,600	2,440	2,627	115.25	122.44	118.14
Yellowtail	2,321	2,139	2,186	203.00	211.53	216.78
Sardine	2,059	2,214	2,112	58.00	64.34	65.58
Sole	1,848	1,832	1,995	155.32	169.05	161.74
Salmon	1,681	1,820	1,925	156.65	153.73	164.08
Crab	1,126	1,250	1,478	239.89	242.00	234.10

Source: Hokkai Keizi Shinbun Sha March 11, 1993

Table 18. Utilization of squid by major species in Japan, 1992 (1,000 metric tons)

Product form	T. pacificus	O. bartrami	N. sloani	I. argentinus	Total
Raw	145	--*	5	--	150
Frozen steak	--	58	0.5	16	74.5
Frozen whole	--	--	--	49	49
Salted & fermented	30	--	0.5	17	47.5
Dried	30	--	2	15	47
Salted	--	--	1	7	8
Smoked	--	8	--	--	8
Seasoned & dried	--	4	--	--	4
Seasoned, dried & shreded	--	--	0.5	--	0.5
Others	81.5		1	27.5	110
Total	286.5	70	10.5	131.5	498.5

* -- Less than 50 metric tons
Note: Data based on assumptions

Source: Zen Gyoren 1993

Cold Storage Holdings

Japan's cold storage holdings of squid fluctuate from year to year. Table 19 shows the recent history of year-end cold storage holdings since 1981. An important aspect of the year-end inventory data is that beginning in 1987, cold storage holdings have nearly doubled, from about 111,000 metric tons (mt) in 1986 to 191,000 mt. Nearly all this increase was attributed to cold storage holdings of Ommastrephid squid, (T. pacificus, I. argentinus and N. sloani), which nearly tripled from about 43,000 mt to about 116,000 mt. Japan has traditionally set apart O. bartrami, another Ommastrephid squid, from the other three.

The sharp increases in inventory of Ommastrephid squid in 1987, 1988, and 1989 were due to an unexpected surge in landings of T. pacificus in the Northwest Pacific, and of I. argentinus in the Southwest Atlantic. Total landings for these squid plus N. sloani surpassed 475,000 mt in 1987, an increase of 111 percent from 1986 and of about 83 percent from the three year average between 1984 through 1986 (260,000 mt; Tables 2 and 7). In 1990 and 1991, the cold storage holdings dropped due to sharply lower catches of I. argentinus and N. sloani. In 1992, the inventory of squid increased by 10 percent from 1991 due to increased catch of T. pacificus. These statistics demonstrate a close correlation between the annual catch of Ommastrephid squid, and the cold storage holdings at the end of the year.

Cold storage holdings fluctuate by season as well. From 1986 through 1992 cold storage holdings were typically at an annual low around April and at a high around October (Table 20). The exact timing of the low and high for any given year varied by about a month. The seasonal pattern in cold storage holdings results from the timing of squid catches and landings from domestic waters, and delivery of catches from foreign waters. For instance, delivery of catches of squid caught off New Zealand begins in February and those from Argentina in April. Fishing for T. pacificus in the Northwest Pacific begins in late May, thus landings start to rise in June. By late June, fishing for T. pacificus has spread to northern Japan and Hokkaido, adding to squid landings through the summer (Minato Shinbun Sha, 1989; Shokuryo Shinbun Sha, 1989, and Zen Gyoren 1993). Fishing for O. bartrami in the Northwest Pacific also begins in June and continues through summer. Seasonal landings of this species and T. pacificus are virtually completed by the end of December. Squid is eaten year-round in Japan, but consumption begins to rise in fall as processors prepare products such as "saki-ika" (dried, shredded squid) which are used extensively in December and January during the traditional festive season in Japan. Due partly to elevated consumption toward late fall and winter and partly to cessation of landings in domestic waters, the inventory declines at this time. The downtrend usually continues through April and May, after which landings begin to overtake consumption (Hirano, T. Diamond Seafoods Co., Ltd., Tokyo, Japan. pers. commun., 1989).

Table 19. Japan's year-end cold storage holdings of frozen squid, 1981-1992 (1,000 metric tons).

Year End	Ommastrephid Squid	Other* Squid	Total Squid
1981	50.8	85.8	136.6
1982	52.3	53.3	105.6
1983	49.0	55.3	104.3
1984	54.2	43.7	97.8
1985	59.1	65.5	124.6
1986	43.4	67.6	111.0
1987	115.9	75.0	191.1
1988	127.2	71.5	198.7
1989	181.5	80.8	262.3
1990	137.7	77.3	215.0
1991	100.1	82.0	182.1
1992	124.5	75.9	200.4

* Includes O. bartrami.

Sources: U.S. Department of Commerce, 1982 - 1991
Suisan Tsushin Sha Feb. 4, 1992; Feb. 5, 1993

Table 20. Japan's monthly cold storage holdings of frozen squid, 1986 - 1992 (1,000 metric tons).

End of month	1986	1987	1988	1989	1990	1991	1992	Average 1986-1992
January	119	101	186	196	249	211	168	176
February	106	95	176	182	226	189	156	161
March	92	89	167	170	204	168	131	146
April	84	93	157	167	183	157	123	138
May	80	98	167	195	178	142	116	139
June	85	121	190	218	177	136	118	149
July	88	135	199	232	183	134	123	156
August	97	169	218	250	200	141	135	173
September	116	195	222	273	213	159	159	191
October	120	201	220	282	216	174	186	200
November	115	201	210	275	219	181	202	200
December	111	191	199	262	215	182	200	194

Sources: U.S. Department of Commerce, 1986 - 1991
Suisan Tsushin Sha, 1991 - 1993

PRICE TRENDS

Dynamics of squid prices in the Japanese market has long been controlled by domestic landings of T. pacificus. As landings of this species decreased over the years, other squids have progressively become more influential. In particular, I. argentinus, now the dominant species in volume being landed by Japanese vessels, has become a major factor.

In Japan, squid prices have historically fluctuated considerably (Table 21). Fluctuations were most conspicuous in the price of T. pacificus, and less with other species. Between 1980 and 1992, the price of fresh T. pacificus ranged from a low of about 160 yen/kg to a high of 760 yen/kg. By comparison, prices for other species generally remained within 200 to 500 yen/kg.

Price fluctuations for T. pacificus are primarily a function of the annual catch. This relationship is clearly demonstrated in Figure 3, which shows that price is inversely related to catch. Prices of both fresh and frozen T. pacificus increased from 1984 through 1986 as the catch declined. This trend was reversed in 1987 when landings of this species practically doubled, and the trend continued through 1992.

Table 21. Average Japanese exvessel prices of squid by species, 1980-1992 (yen per Kg.)

Year	T. pacificus		O. bartrami		N. sloani		I. argentinus
	Fresh	Frozen	Fresh	Frozen	Jig	Trawl*	Trawl*
1980	340	288	197	236	NA**	NA	170
1981	469	172	358	363	172	170	320
1982	604	510	306	423	392	340	300
1983	570	435	250	307	322	340	300
1984	560	473	317	445	298	250-340	310
1985	658	516	269	508	384	280-350	300
1986	758	565	312	442	320	360-440	470
1987	534	400	166	309	397	220-470	270
1988	465	276	236	377	177	170-280	130
1989	322	205	125	338	158	110-230	NA
1990	367	285	232	350	NA	NA	NA
1991	305	315	257	444	NA	NA	NA
1992	160	180	342	436	NA	NA	NA

* Wholesale prices (list or offer price)
** NA - Not available

Source: Zen Gyoren 1988, 1993

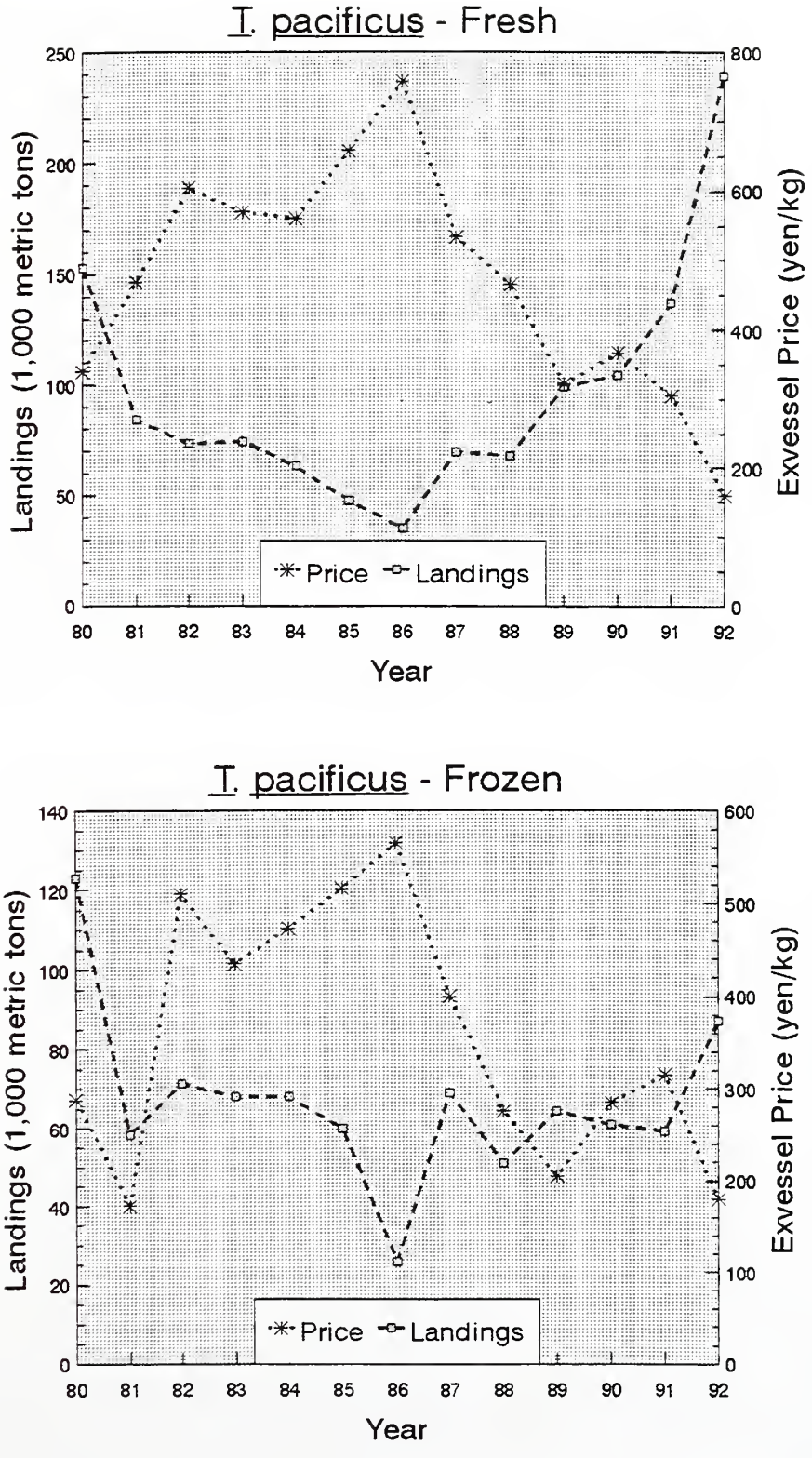

Figure 3. Annual landings and average exvessel prices of <u>Todarodes pacificus</u> in Japan, 1980 - 1992

Prices of O. bartrami generally are inversely related to its annual catch, but the relationship is much less conspicuous than in the case of T. pacificus (Figure 4). Prices of N. sloani, which accounts for a relatively small proportion of the total squid volume caught by Japanese fishermen, are the most stable of the four major species (Figure 5).

In 1986, I. argentinus became the primary squid landed by Japanese fishermen and its catches nearly made up for the reduced landings which occurred with the three other major species that year. Reflecting the important role it plays in the overall supply of squid in the Japanese market, prices of I. argentinus rose sharply in 1986, when the overall catch fell considerably from the level of the previous years. Illex argentinus reached its historical high price of 470 yen/kg, exceeding the prices of both O. bartrami and N. sloani to rank only behind the T. pacificus (Figure 6). However, oversupply of squid in the following year led to significant deterioration in squid prices. For example, the price of I. argentinus caught by trawl dropped to 270 yen/kg in 1987, and further to 130 yen/kg in 1988, from the 1986 price of 470 yen/kg. Table 22 summarizes a seven-year trend of March 31 prices for N. sloani and I. argentinus from 1986 through 1992 for different size classes of squid. Prices for both N. sloani and I. argentinus in 1992 were about a third of those in 1986 for all size classes.

Events which occurred in the Japanese market in 1987 and 1988 provide an important insight into the interaction of prices, landings, cold storage holdings, and consumption. With a sudden increase in supply in 1987, a drop in price occurred almost immediately. At the same time, domestic consumption of squid which had been slipping during the preceding several years finally began to improve in 1987. However, the increase in consumption was not fast enough to keep pace with the increase in landings and thus the year-end inventory reached a record level of about 200,000 mt. By comparison, the year-end cold storage inventory which is considered adequate in the Japanese market is generally believed to be between 100,000 and 120,000 mt (Suisan Keizai Shinbun Sha, 1989).

In the fall of 1989, Japanese squid industry associations met to discuss ways of stabilizing prices. The meeting, called Squid Supply-Demand Policy Liaison Caucus (Ika Jukyu Taisaku Renraku Kyogi-kai), was attended by the heads of the National Federation of Fisheries Cooperatives (Zen-gyoren), the Large Squid Jigging Vessel Association (Ogata Ikatsuri Gyogyo Kyokai), the National Offshore Squid Jiggers Association (Zenkoku Okiai Ikatsuri Gyogyo Kyokai), the National Squid Drift Net Fisheries Association (Zenkoku Ika Nagashi-ami Gyogyo Kyokai), the National Federation of the Processed Fisheries Products Cooperatives (Zenkoku Suisan-kakogyo Kyodokumiai Rengokai), and the Fisheries Agency of the Japanese Government.

Among the decisions made by the caucus were:

- To curtail landings in 1990 by shortening fishing periods, and improving real-time information dissemination on price and quantity landed among members of the industry;

- To expand consumption by introducing new products, by increasing value-added products, and by expanding promotion of squid products to consumers;

- To reduce costs by conducting preliminary processing on board, and by increasing catches of fish other than squid on ships licensed for mixed fishing;

- To advocate international coordination of resource management with Taiwan and the Republic of Korea.

The caucus of Japanese squid operators met again in late 1989 due to concern over the continued squid market deterioration. The meeting resulted in the recommendations aimed at curtailing the 1990 production by about 30 percent and trimming the cold storage holdings to 120,000 tons by the end of 1989. The recommendations also called for reducing the fleet size and shortening the fishing season by one month in the Southwest Atlantic (Minato Shinbun Sha, 1988 Suisan Keizai Shinbun Sha 1989, 1990).

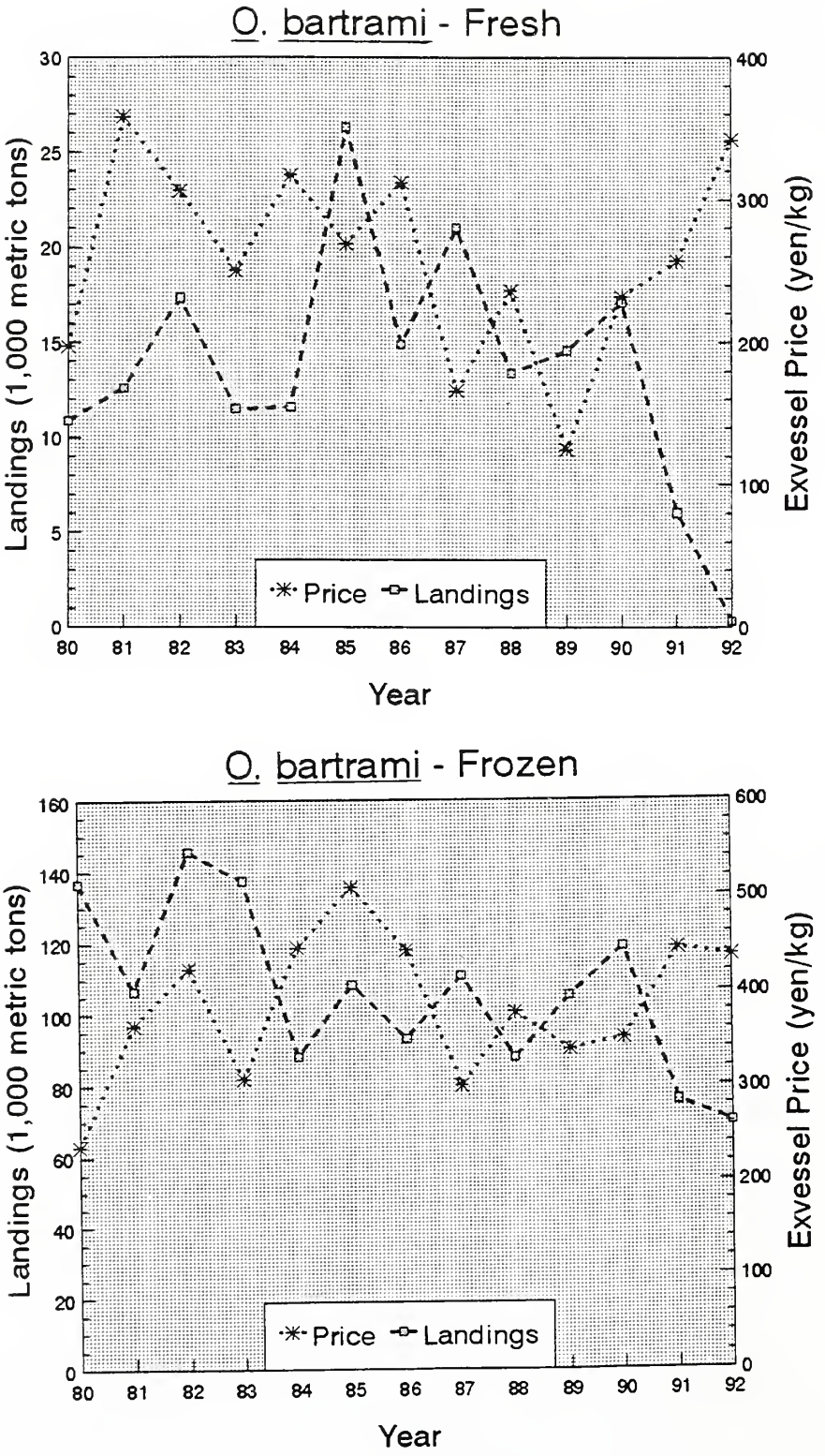

Figure 4. Annual landings and average exvessel prices of <u>Ommastrephes bartrami</u> in Japan, 1980 - 1992

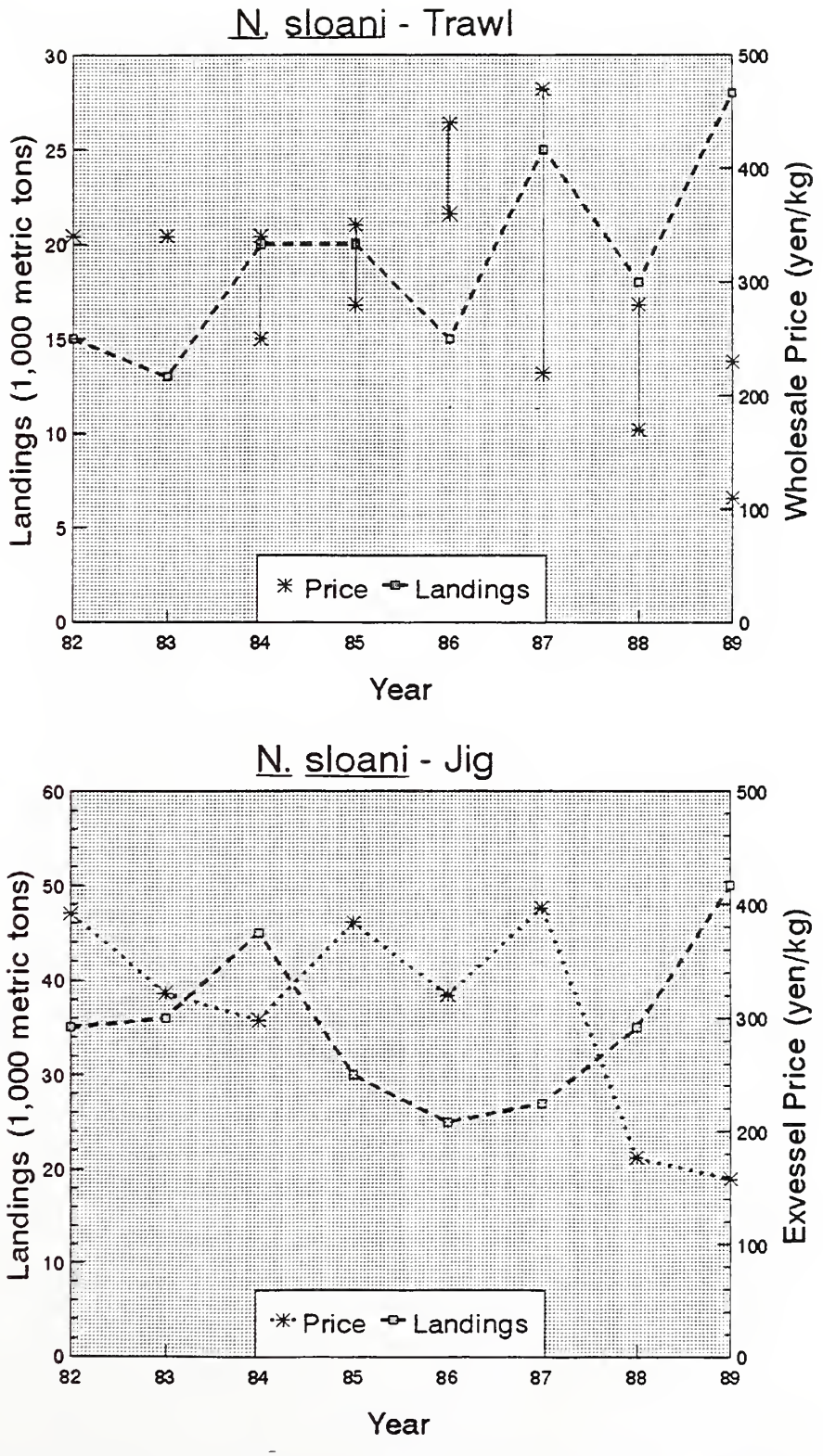

Figure 5. Annual landings and prices of Nototodarus sloani in Japan, 1982 - 1989

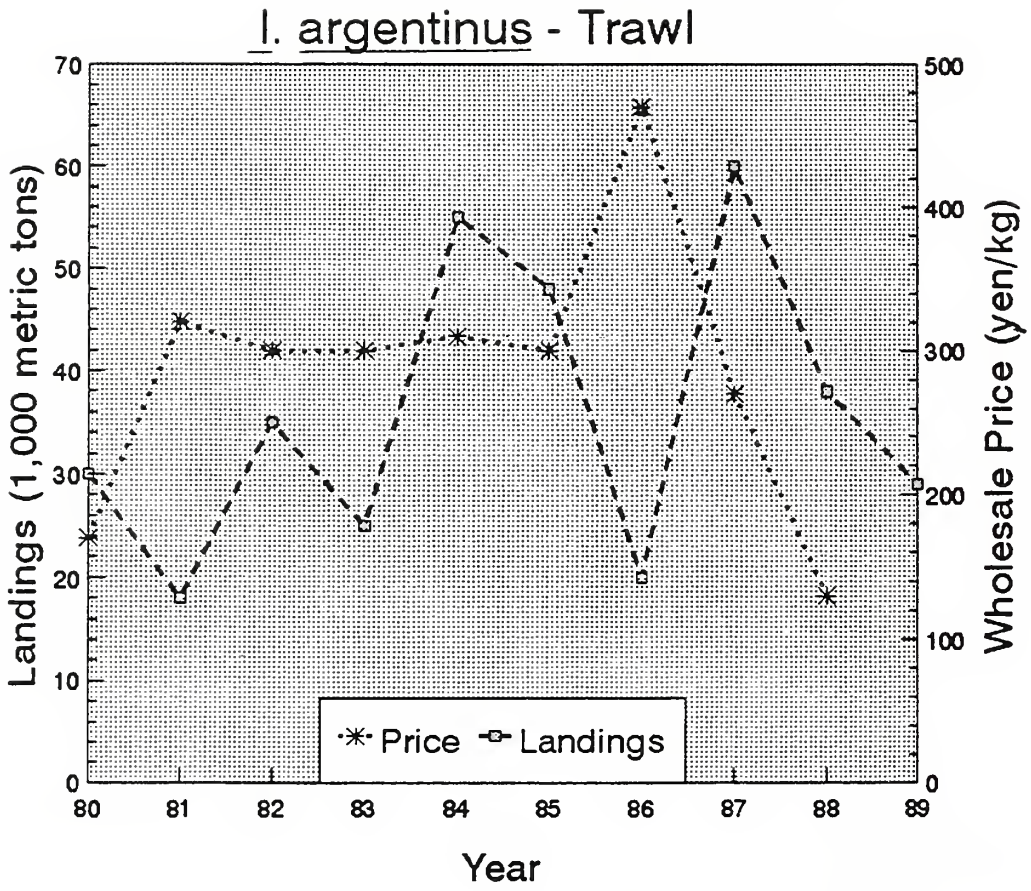

Figure 6. Annual landings and average wholesale prices of <u>Illex</u> <u>argentinus</u> in Japan, 1980 - 1989

Table 22. Exvessel prices by size for Nototodarus sloani and Illex argentinus, 1986-1992

Size (No. squid per 8.5 Kg block)	1986	1987	1988
		(Yen per 8.5 Kg block)	
N. sloani			
11-15	3,800	3,600	1,250-1,300
16-20	4,150-4,240	3,870	1,250-1,300
21-25	4,203-4,480	4,300-4,350	1,300
26-30	4,050-4,230	3,900-3,960	1,350-1,400
31-35	3,900-4,000	3,500-3,600	1,300
I. argentinus			
21-25	5,400-5,450	3,750-3,800	1,530-1,560
26-30	4,400-4,450	3,500-3,550	1,600-1,610
31-35	4,070	3,250-3,300	1,350-1,360
36-40	3,600-3,700	3,350-3,400	1,330-1,360

Size (No. squid per 8.5 Kg block)	1989	1990	1991	1992
			(Yen per 8.5 Kg block)	
N. sloani				
11-15	1,900	1,250	1,650	1,850
16-20	1,750-1,850	1,500-1,550	2,000	1,800
21-25	1,680-1,750	1,530-1,550	1,750	1,150
26-30	1,580-1,680	1,650-1,680	1,850	1,150
31-35	1,600-1,700	1,800-1,850	2,030-2,050	1,310-1,330
I. argentinus				
21-25	1,630-1,650	2,550-2,570	1,750-1,770	2,050
26-30	1,780-1,800	2,735-2,750	1,570-1,580	1,960
31-35	1,900-1,940	3,280	1,450	1,830-1,860
36-40	2,500	3,270-3,280	NA*	1,700

Note: Prices are at landing ports on March 31.
* NA - Not available

Source: Zen Gyoren 1990, 1993

U.S. SQUID FISHERIES

Catch

Three species of squid are commercially important in U.S. waters, Loligo opalescens on the Pacific coast, and Loligo pealei and Illex illecebrosus on the Atlantic coast. Annual landings of the U.S. squid fishery averaged approximately 54,000 metric tons (mt) from 1989 through 1992 (Table 23). The 1992 landings, totaling 51,000 mt in volume and $36.6 million in value, represented a decrease of 19 percent in volume, but an increase of 3 percent in value compared with 1991. Much of the decrease in landings was accounted for by a steep decline in the catch of L. opalescens, which decreased total landings by as much as 56 percent in volume and 49 percent in value. In 1992, total value of the east coast squids was 12 times higher than the west coast squid.

Loligo opalescens (market squid) is a small squid often called California squid by traders. In commercial landings in Monterey, males averaged 150 mm in mantle length and weighed 70 g, while females were 140 mm and 50 g (Fields, 1965). Maximum mantle length is reported to be about 190 mm for males and 180 mm for females. Nearly all market squid taken by the commercial fishery are mature and are caught during the spawning season. This species is caught in shallow waters, generally within a mile of shore (Kato and Hardwick, 1975).

Landings of California market squid from 1976 through 1992 are summarized in Table 24. Historically, Monterey was the center of squid fishing on the Pacific coast. However, the squid fishery in southern California, based at San Pedro (Los Angeles district) and Port Hueneme (Santa Barbara district), has become quite active in recent years.

The squid fishery in Monterey Bay appears to be supply limited, as evidenced by the rather pronounced fluctuations in catches. On the other hand, the squid fishery in southern California is probably demand limited in that the stocks could support greater landings if markets were available. Lower landings in 1983-85 and 1992 reflect the effect of anomalous ocean conditions ("El Niño") in those years.

While it is generally acknowledged that market squid is underutilized, detailed information about the size of the resources is unavailable. This squid occurs virtually along the entire Pacific coast of North America between Vancouver Island and the southern tip of Baja California, but status of the stocks is unknown for all areas.

Table 23. U.S. commercial squid landings and value, 1989 - 1992

	Landings				Value			
	1989	1990	1991	1992	1989	1990	1991	1992
	(1,000 metric tons)				($ million)			
Atlantic Ocean	30.3	27.1	32.2	37.2	25.6	21.2	30.3	33.9
Pacific Ocean	27.6	16.4	31.1	13.8	5.5	2.6	5.3	2.7
Total	57.9	43.5	63.3	51.0	31.1	23.8	35.6	36.6

Source: U.S. Department of Commerce, 1990 - 1993

Table 24. California market squid landings by district, 1976-1992 (metric tons).

Year	Eureka	San Francisco	Monterey	Santa Barbara	Los Angeles	San Diego	Total
1976	--*	--	2,283	1,540	5,383	24	9,230
1977	--	--	2,031	2,439	8,358	10	12,838
1978	--	--	9,389	1,175	6,617	--	17,181
1979	--	--	12,894	150	6,979	--	20,023
1980	--	--	7,142	1,097	7,171	5	15,415
1981	2	--	12,845	2,231	8,294	4	23,377
1982	2	2	10,609	1,406	4,299	--	16,319
1983	--	463	493	7	856	1	1,820
1984	--	97	392	10	66	--	565
1985	--	77	3,820	2,277	2,654	--	9,328
1986	--	834	5,499	6,847	8,142	--	21,322
1987	--	343	5,601	8,479	5,190	3	19,617
1988	30	295	4,907	16,933	14,549	3	36,717
1989	1	3	7,165	17,424	16,388	2	40,983
1990	1	129	7,934	10,623	9,819	1	28,507
1991	2	1,475	6,717	16,940	12,333	--	37,467
1992	1	2,442	6,120	2,816	1,704	16	13,099

* -- less than 0.5 metric tons

Source: California Department of Fish and Game, Long Beach CA., 1987-1993

Loligo pealei (long-finned squid or Boston squid) is probably the most important U.S. commercial squid species because of its higher value (Rathjen, 1983). It is a large squid with maximum mantle lengths of 500 mm for males and about 400 mm for females. Loligo pealei is preferred in the European markets for its excellent taste and texture qualities compared to I. illecebrosus and larger size compared to L. opalescens, and brings a considerably higher price on foreign markets than the other two species. Loligo pealei inhabits deep waters of the continental shelf through most of the year, moving into shallow waters to spawn between late spring and summer (Rathjen, 1973). While foreign vessels had been catching this species since the mid-1960's to 1986, heavy fishing by U.S. fishermen only began after 1983. Combined catches peaked in 1973 when 38,000 mt was landed (Table 25).

Table 25. U.S. and foreign catch of Loligo pealei, 1963 - 1992 (metric tons)

Year	U.S. catch	Foreign catch	Total
1963	1,294	0	1,294
1964	576	2	578
1965	709	99	808
1966	772	226	998
1967	547	1,130	1,677
1968	1,084	2,327	3,411
1969	899	8,643	9,542
1970	653	16,732	17,385
1971	727	17,442	18,169
1972	725	29,009	29,734
1973	1,105	36,508	37,613
1974	2,274	32,576	34,850
1975	1,621	32,180	33,801
1976	3,602	21,682	25,284
1977	1,088	15,586	16,674
1978	1,291	9,355	10,646
1979	4,252	13,068	17,320
1980	3,996	19,750	23,746
1981	2,316	20,212	22,528
1982	5,464	15,805	21,269
1983	15,943	11,720	27,663
1984	11,592	11,031	22,623
1985	10,155	6,549	16,704
1986	13,292	4,598	17,890
1987	11,475	2	11,477
1988	19,072	3	19,075
1989	23,007	5	23,012
1990	15,183	0	15,183
1991	19,417	0	19,417
1992	18,183	0	18,183

Source: U.S. Department of Commerce 1993

The principal fishing gear used to catch L. pealei is the otter trawl. Recreational fishing is insignificant and foreign fishing activity in the U.S. Exclusive Economic Zone (EEZ) has completely ceased. This fishery has managed by the Mid-Atlantic Fishery Management Council (MAFMC) under provisions of the Atlantic Mackerel, Squid, and Butterfish Fishery Management Plan. For 1993 and 1994, the maximum annual allowable biological catch of 40,000 mt has been allocated entirely to the domestic fishery, and no directed foreign fishing or foreign joint ventures are permitted (MAFMC 1993).

Illex illecebrosus (short-finned squid) is distributed along the entire east coast of North America between Florida and Labrador. It inhabits deep waters beyond the continental shelf during the spawning season in winter and early spring. In the spring and summer it moves into shallow waters and becomes available to domestic fishermen (Rathjen, 1973). Illex illecebrosus grows to a maximum mantle length of about 350 mm and lives about 12 to 24 months. Commercial catches off the United States are comprised mainly of individuals 100 to 280 mm (4 to 11 inches) which are probably 8 to 24 months of age.

Illex illecebrosus is caught mainly by otter trawls. Recreational catches are insignificant, as are foreign catches since 1986 (Table 26). The fishery is managed by MAFMC under the same plan as long-finned squid. For 1993 and 1994, the maximum optimum yield, the allowable biological catch, and the domestic allowable harvest for I. illecebrosus have been set at 30,000 mt each. Directed foreign fishing is not allowed on I. illecebrosus (MAFMC 1993). Fishing for this species by U.S. fishermen began in the mid-1960's, with landings of approximately 800 mt in 1963 (Table 26). In 1992, domestic landings were a record 17,830 mt, an increase of 50 percent over 1991 landings.

The U.S. squid fishery off the Atlantic coast has increased substantially since about 1982 as the National Marine Fisheries Service (NMFS) and the Mid-Atlantic Fishery Management Council initiated a policy of tying foreign fishing allocations to agreements by foreign interests to purchase squid from U.S. fishermen. As a result, foreign allocations and catches declined, while the U.S. domestic catches increased. Between 1981 and 1992, the domestic catches of L. pealei and I. illecebrosus rose from 2,947 mt to 36,013 mt, while foreign catches dropped from about 35,000 to 0 mt (Tables 25 and 26).

Table 26. U.S. and foreign catch of *Illex illecebrosus*, 1963 - 1992 (metric tons)

Year	U.S. catch	Foreign catch	Total
1963	810	0	810
1964	358	2	360
1965	444	78	522
1966	452	118	570
1967	707	285	992
1968	678	2,593	3,271
1969	562	975	1,537
1970	408	2,418	2,826
1971	455	159	614
1972	472	17,169	17,641
1973	530	18,625	19,155
1974	148	20,480	20,628
1975	107	17,819	17,926
1976	229	24,707	24,936
1977	1,024	23,771	24,795
1978	385	17,310	17,695
1979	1,780	15,742	17,522
1980	349	17,529	17,878
1981	631	14,723	15,354
1982	5,902	12,350	18,252
1983	9,944	1,776	11,720
1984	9,547	676	10,223
1985	4,997	1,053	6,050
1986	5,176	250	5,426
1987	10,260	0	10,260
1988	1,966	1	1,967
1989	6,802	0	6,802
1990	11,326	0	11,326
1991	11,912	0	11,912
1992	17,830	0	17,830

Source: U.S. Department of Commerce 1993

Exports

United States squid exports from 1982 through 1992 are summarized in Tables 27 and 28. Exports of U.S. squid suffered a serious setback during the El Niño period on the west coast from 1983 through 1985, but made a significant recovery in 1986. In 1992, U.S. squid exports were worth more than $34 million at about 23,000 metric tons (mt), up 27 percent in value and 24 percent in quantity from 1991. The increase in exports of U.S. squid in 1992 was due mainly to increased acceptance of U.S. squid in Italy, Canada, Greece, and Spain. In 1992, Italy replaced Japan as the largest buyer of U.S. squid, as exports to Japan decreased 13 percent in quantity while increasing 7 percent in value from 1991. The decline of exports to Japan in volume was due mainly to a sharp increase in their inventory of Ommastrephid squid.

United States exports of squid to Japan have been dominated by L. opalescens (Tables 29 and 30). Except for the El Niño years of 1983 and 1984, U.S. exports to Japan have been almost exclusively confined to market squid. Japan is a major buyer of species of Illex from around the world, but its purchase of U.S. Illex is limited, as its interest in Illex is focused mainly in waters in the Southwest Atlantic.

The market for Illex illecebrosus has primarily been for bait. Squid is used as bait in longline fisheries because it holds up well in the water and will not easily tear off the hook. Illex illecebrosus is preferred over L. pealei because it is larger, has a thicker, and tougher mantle and also because it is significantly less expensive. United States east coast producers have domestic bait markets for I. illecebrosus on the east coast and major export markets in Canada, Iceland, and the Faroe Islands. In addition, minor export bait markets exist in other countries depending on the availability of alternate sources of supply.

There is currently an export market in several foreign countries for U.S. Illex frozen at sea. One of the main reasons for the recent increase in demand for U.S. squid has been the poor squid harvest in the Southwest Atlantic near the Falkland Islands and off of New Zealand. As a result, there are current sales opportunities for Illex in South Korea, Portugal, Spain, and to a lesser degree in Italy and Japan.

Future sales of I. illecebrosus to Japan depend on world production of other ommastrephid squid in traditional producing areas such as New Zealand and the Falkland Islands. The United States has the capability to produce a high quality sea-frozen product and this capability is increasing as its freezer trawler fleet expands. Abundance of squid appears to be declining off the Falkland Islands and with reduced harvest levels projected for that area, U.S. export potential appears favorable.

Loligo pealei is primarily sold to the export market. The major distant water fishing nations which fished off the U.S. east coast prior the phase-out of foreign fishing in the late 1970's caught large quantities of L. pealei for their home markets. As a result, the export trade has steadily increased as U.S. exporters replaced foreign directed harvest. The major markets for L. pealei are in Europe, primarily Italy, Spain, and Greece and to a lesser degree Portugal, France, and the Netherlands.

Table 27. U.S. squid exports to leading destinations by volume, 1982 - 1992 (metric tons)

Country	1982	1983	1984	1985	1986	1987
Italy	396	541	231	840	560	888
Japan	3,167	60	175	504	1,594	1,820
Canada	685	522	403	239	441	440
Greece	674	206	57	198	321	658
Spain	616	1,904	320	162	1,494	518
France	341	179	366	292	346	812
Netherlands	91	43	0	166	202	687
W. Germany	597	108	38	162	148	164
Portugal	212	22	0	0	52	34
Yugoslavia	0	0	0	0	0	0
Other	2,370	437	549	613	1,362	1,628
Total	9,149	4,022	2,139	3,176	6,520	7,449

Country	1988	1989	1990	1991	1992
Italy	3,305	3,299	2,812	2,588	4,046
Japan	1,920	1,058	2,022	3,599	3,123
Canada	436	601	2,147	2,243	2,604
Greece	2,498	2,011	1,441	1,200	2,125
Spain	3,112	3,979	1,946	1,118	1,415
France	791	1,199	889	681	746
Netherlands	891	2,135	1,115	549	557
W. Germany	635	464	380	350	323
Portugal	802	681	327	140	94
Yugoslavia	514	1,841	343	151	0
Other	2,263	971	6,879	5,869	7,687
Total	17,167	18,239	20,301	18,393	22,720

Source: U.S. Department of Commerce 1983 - 1993

Table 28. U.S. squid exports to leading destinations by value, 1982 - 1992 (U.S. $1,000)

Country	1982	1983	1984	1985	1986	1987
Italy	574	1,019	398	998	1,072	2,041
Japan	4,659	97	648	853	2,735	2,818
Canada	1,947	1,179	1,159	471	1,353	1,267
Spain	1,103	3,601	480	224	3,080	866
Greece	412	363	87	285	373	692
France	375	373	637	338	660	1,269
Netherlands	106	95	0	237	188	489
W. Germany	748	169	52	224	205	220
Portugal	112	33	0	0	70	49
Yugoslavia	0	0	0	0	0	0
Other	3,216	918	1,033	1,116	2,075	2,228
Total	13,252	7,847	4,494	4,746	11,811	11,939

Country	1988	1989	1990	1991	1992
Italy	5,878	6,315	5,797	5,803	8,645
Japan	2,643	1,803	2,358	4,587	4,888
Canada	1,020	2,178	3,751	4,374	4,762
Spain	4,313	5,452	3,510	2,458	2,647
Greece	3,209	2,291	1,736	1,403	2,613
France	1,155	1,916	1,256	856	650
Netherlands	1,048	3,642	801	520	578
W. Germany	875	544	439	349	325
Portugal	1,647	1,083	480	188	116
Yugoslavia	479	1,940	284	168	0
Other	2,846	2,252	8,121	6,495	9,250
Total	25,113	29,416	28,533	27,202	34,474

Source: U.S. Department of Commerce 1983 - 1993

Table 29. U.S. squid exports of Loligo opalescens and other squid to Japan by volume, 1981-1992.

Year	Loligo opalescens (A) (Metric tons)	Total (B)	Comparison (A)/(B) (Percent)
1981	1,666	1,778	94
1982	3,033	3,167	96
1983	8	59	14
1984	18	175	11
1985	484	504	96
1986	1,439	1,523	90
1987	1,772	1,820	97
1988	1,904	1,920	99
1989	955	1,058	81
1990	1,990	2,022	98
1991	3,595	3,600	100
1992	3,080	3,123	99

Source: U.S. Department of Commerce 1982-1993

Table 30. U.S. squid exports of Loligo opalescens and other squid to Japan by value, 1981-1992.

Year	Loligo opalescens (A) (U.S. $1,000)	Total (B)	Comparison (A)/(B) (Percent)
1981	2,202	2,386	93
1982	4,484	4,659	96
1983	22	97	23
1984	149	649	23
1985	816	853	96
1986	2,401	2,640	88
1987	3,531	2,818	90
1988	2,453	2,643	93
1989	1,724	1,803	96
1990	2,308	2,358	98
1991	4,576	4,588	100
1992	4,843	4,888	99

Source: U.S. Department of Commerce 1982-1993

EXPORT STRATEGIES

Opportunities exist for expanding sales of all three U.S. species of squid to Japan. Strategies to increase exports may include the following considerations:

- Develop a stable domestic market for squid in the United States to support a viable squid fishery at home;
- Enhance overseas sales efforts, by utilizing market analysis and sales consulting services in consuming nations, by exhibition and test sales of new products, and by promoting joint ventures with foreign importers, distributors and/or retail chains;
- Cultivate a high-quality image for U.S. squid, by improving techniques and quality control in the catching, holding, processing and packaging of the products.

Japan has the most important market potential for U.S. squid. Imports of foreign squid into Japan are regulated by the government through a quota system which not only sets the amount of annual imports but also decrees recipients of import quotas. Under this system, annual imports of foreign squid have been held to about 53,000 tons or less. Because of the limited import quotas, importers seek items which brings high profitability, usually those that fill special niches in the Japanese market. One such item may be whole, frozen market squid (L. opalescens) packaged in small amounts and sold in supermarkets. While market squid is not popular with processors owing to its small size it commands higher prices when sold directly to consumers. This approach may also offer an interesting prospect for partnership with supermarket chains. The numerous supermarkets under immense national chains have become a significant factor in the Japanese economy. A partnership with the supermarkets will assure adequate size and steadiness of sales on a long term basis. The Japanese consumers also prefer larger market squid, therefore, U.S. exporters should pay special attention to size grading. The favored size range is 13 - 20 squid per kg (6 - 9 squids per lb.), and packs including smaller individuals decrease acceptability. Consumers prefer squid of uniform size because different sizes are prepared differently. Further, female squid which bear roe may bring the best prices on the Japanese market.

The future market for sales of U.S. squids depends to a large extent on squid production from traditional producing areas such as waters off New Zealand, the Falkland Islands, and Japan. Sharp increases in Japan's squid landings over the last several years have contributed to heavy inventories, resulting in lower prices and a generally soft market. However, with the sharp drop in Japan's squid catch in waters off the Falkland Islands and New Zealand since 1990 and with the implementation of Japan's moratorium on squid driftnet fishing starting in 1993, the Japanese squid supply will probably decline. These developments may

facilitate a recovery in prices, and may eventually give rise to a condition favorable for increased export of squid from the east coast and California to Japan.

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U.S. Embassy, Commercial Section, Tokyo, Japan. 1993

Appendix 1. Japanese major squid import quota holders

MAJOR TRADING COMPANIES:

C. Itoh & Company, Ltd.
Hoko Fishing Co., Ltd.
Ito-Yokado Co., Ltd.
Kabushiki Kaisha Ocean Beauty
Kanematsu Corp.
Kasho Company Ltd.
Kobe Yoko Ltd.
Kyokuyo Co., Ltd.
Marubeni Corp.
Maruha Corp.
Matsuoka Co., Ltd.
Meiwa Trading Co., Ltd.
Mitsubishi Corp.
Mitsui & Co., Ltd.
Nakamura Suisan Co., Ltd.
New Toyo Seafoods Co., Ltd.
Nichirei Corp.
Nichiro Gyogyo Kaisha, Ltd.
Nippon Suisan Kaisha, Ltd.
Nissho-Iwai Co., Ltd.
Nozaki & Co., Ltd.
Okura & Co., Ltd.
Shibamoto & Co., Ltd.
Sumitomo Corp.
Tokyo Commercial Co., Ltd.
Tokyo Maruichi Shoji
Toshoku Seafood Ltd.
Toyota Tsusho Kaisha, Ltd.

PROCESSORS:

Zenkoku Suisan Kakogyo Kyodokumiai Rengokai
(National Federation of Processed Fisheries Products Cooperative)

Zenkoku Ika Kakogyo Kyodokumiai
(National Cooperative Association of Squid Processors)

Zenkoku Chinmi Shokuryo Kyodokumiai Rengokai
(National Federation of Processed Delicacy Food Products Cooperatives)

Zenkoku Chori Shokuhin Kogyo Kyodokumiai
(National Federation of Pre-Cooked Food Manufacturers)

Nihon Suisan Kansume Kogyo Kyodokumiai
(Japan Canned Fish Manufacturer's Cooperative)

Zenkoku Kyushoku Busshi Hanbai Kyodokumiai Rengokai
(National Federation of School Lunch Products Cooperative)

Zenkoku Gyogyo Kyodokumiai Rengokai
(National Federation of Fisheries Cooperatives)

Zenkoku Kamaboko Suisan Kakogyo Kyodokumiai Rengokai
(National Federation of Kneeded Fisheries Products Cooperatives)

Source: U.S. Embassy, Commercial Section, Tokyo 1993

Appendix 2. Japanese major seafood importers

COMPANY: **Aburai Kabo Co., Ltd.**
ADDRESS: 12-13, 3-chome Shinhama, Shiogama, Miyagi 985
PHONE: (022) 364-3733
FAX: (022) 364-3755
PRODUCTS: Butter fish, cod, pollock, rock sole, rock fish, salmon, surimi, king crab.

COMPANY: **Active Foods K.K.**
ADDRESS: 9F Kanayararu Bldg., 8-4, 4-chome Kumochi-cho Chuo-ku, Kobe 651
PHONE: (078) 231-2700
FAX: (078) 231-1022
TELEX: 5622072 ACTIVE J
PRODUCTS: Cuttlefish, shrimp, pomfret, crab.

COMPANY: **Bokusui Sangyo Co., Ltd.**
ADDRESS: 2-2, 1-chome Uchisaiwaicho, Chiyoda-ku, Tokyo 100
PHONE: (03) 3506-7607
FAX: (03) 3506-7626
TELEX: 222-2392
PRODUCTS: Shrimp.

COMPANY: **C.I. Seafoods Ltd.**
ADDRESS: 7-3, 4-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 3542-2383
FAX: (03) 3542-2539
TELEX: 252-2749 CISEA J
PRODUCTS: Shrimp, lobster, arctic shrimp.

COMPANY: **C. Itoh & Co., Ltd.**
ADDRESS: 5-1, 2-chome Kitaaoyama, Minato-Ku, Tokyo 107
PHONE: (03) 3497-6186
FAX: (03) 3497-6186
TELEX: J 22295/7
PRODUCTS: Tuna, skipjack, marlin, yellowfin, albacore, sanma, squid, octopus, cuttlefish, snow crab, herring, herring roe, salmon, smelt, butterfish, Sablefish halibut, capelin, capelin roe, red fish, saith, canned tuna, canned mackerel, canned sardine.

COMPANY: **Co-Optrade Japan Ltd.**
ADDRESS: 35-1, 1-chome komagome, Toshima-ku, Tokyo 170
PHONE: (03) 3942-6060
FAX: (03) 3942-6040
TELEX: J 23393 COOPTR
PRODUCTS: Shrimp, eel, salmon, salmon roe, herring, herring roe, sablefish, snow crab, pollock, pollock roe, octopus.

COMPANY: **Daimaru Kogyo Ltd.**
ADDRESS: 18-11, Kiba 2-chome, Koto-ku, Tokyo 135
PHONE: (03) 3820-7123
FAX: (03) 3820-7089
TELEX: J 24396
PRODUCTS: Salmon, herring, salmon roe, herring roe, halibut, sablefish, smelt, butterfish, squid, pollock roe, shrimp, flounder, sole, king crab, tanner crab, bloody clam, abalone.

COMPANY: **Eastern Products Co., Ltd.**
ADDRESS: 7F Tokyo Kaijo Bldg,2-1, 1-chome Marunouchi, Chiyoda-ku, Tokyo 100
PHONE: (03) 3215-0371
FAX: (03) 3215-0370
TELEX: J 26285 EPCTOBU
PRODUCTS: Shrimp, cuttlefish, octopus.

COMPANY: **Ebijyo & Co., Ltd.**
ADDRESS: 23-5, 6-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: Business Dept. (03) 3542-1361
FAX: (03) 3541-1518
TELEX: 252-2369 EBIJYO J
CABLE add: SHRIMPPRAWN TOKYO
PRODUCTS: Salmon, herring, salmon roe, shrimp, lobster, cuttlefish, squid, oyster, scallop.

COMPANY: **Ebiko Corporation**
ADDRESS: 1-8, 6-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 3542-3435
FAX: (03) 3542-7665
PRODUCTS: Shrimp, lobster.

COMPANY: **Ebino Daimaru Co., Ltd.**
ADDRESS: 21-7, 6-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 3541-7281
FAX: (03) 3541-7475
TELEX: 252-3826 EBIDAI
PRODUCTS: Shrimp, lobster.

COMPANY: **Fish World Co., Ltd.**
ADDRESS: 7-3, 1-chome Kiba, Kushirocho, Kushirogun Hokkaido 088-06
PHONE: (0154) 37-8677
FAX: (0154) 37-0325
PRODUCTS: Sablefish, hallibut, salmon, salmon roe, crab.

COMPANY: **Hanshin Teion Co., Ltd.**
ADDRESS: 17-4, 6-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 3541-7541
FAX: (03) 3541-7547
PRODUCTS: Salmon, shrimp, cuttlefish.

COMPANY: **Hanwa Co., Ltd. Tokyo**
ADDRESS: 13-10, 1-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 3544-2341
FAX: (03) 3544-2050
TELEX: 2522358 HANWA J 2522342 HANWA J
PRODUCTS: Shrimp, lobster, salmon, herring, capelin, red shrimp, sablefish, herring roe, cuttlefish, red fish.

COMPANY: **Happy World Inc.**
ADDRESS: Marue Bldg, 19-10, 1-chome Jinnan, Shibuya-ku, Tokyo 150
PHONE: (03) 3464-2638
FAX: (03) 3496-5372
TELEX: 2424093 HAPPIN J
PRODUCTS: Salmon, shrimp, horse mackerel.

COMPANY: **Hohsui Corporation**
ADDRESS: 7-3, 3-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 5565-8946
FAX: (03) 3542-6808
TELEX: 252-2258
PRODUCTS: Fish meal, Surimi, pollock roe, barracuda, tanner crab, herring, herring roe, horse mackerel, red fish, butterfish, shrimp, salmon, salmon roe, sablefish, squid, mongo ika, barracuda, baby clam.

COMPANY: **Hokkai Seafoods Co., Ltd.**
ADDRESS: 13-5, 7-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 3546-1261
FAX: (03) 3546-1260
TELEX: 02522571 SEAFOD J
PRODUCTS: Salmon, herring, capelin, squid, salmon roe, herring roe, capelin roe, herring roe on kelp, mullet roe.

COMPANY: **Hoko Fishing Co., Ltd.**
ADDRESS: 2-4, 1-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 3542-5644
FAX: (03) 3545-2167
TELEX: 2522933
PRODUCTS: Octopus, cuttlefish, squid, merluza, sea bream, horse mackerel, shrimp, lobster, snapper, butterfish, capelin, red fish, mackerel, flatfish, salmon, herring, salmon roe, herring roe, crab, pollock roe, bluefin tuna, sablefish.

COMPANY: **Icicle Seafoods (Japan) Ltd.**
ADDRESS: Sandai Bldg, 1-1, 1-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 3545-4751
FAX: (03) 3545-4767
PRODUCTS: Salmon, herring, sablefish, halibut, salmon roe, herring roe, king crab, tanner crab.

COMPANY: **Itoman Corporation**
ADDRESS: Sumitomoseimei Aoyama Bldg., 1-30, 3-chome Minamiaoyama, Minato-ku, Tokyo 107
PHONE: (03) 3478-9130
FAX: (03) 3479-4367
TELEX: J 22810
PRODUCTS: Shrimp, lobster, salmon, sea urchin, squid, cuttlefish, tuna.

COMPANY: **Ito-Yokado Co., Ltd.**
ADDRESS: 1-4, 4-chome Shibakouen, Minato-ku, Tokyo 105
PHONE: (03) 3459-2558
FAX: (03) 3459-6892
TELEX: J 23841
PRODUCTS: Whole Seafood.

COMPANY: **Kabushiki Kaisha Ocean Beauty**
ADDRESS: 4F Ikeda Bldg, 5-5, 4-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 3542-9301
FAX: (03) 3542-9385
TELEX: J 24234
PRODUCTS: Salmon roe, herring roe, salmon, sablefish, snapper, shrimp, snow crab, halibut, jellyfish, squid.

COMPANY: **Kaioh Suisan Co., Ltd.**
ADDRESS: 6-7, 2-chome, Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 3543-6066
FAX: (03) 3545-1689
TELEX: 2524626 KAIOH J
PRODUCTS: Cod, horse mackerel, mackerel, pollock, plaice, rockfish, salmon, sole, tuna, surimi, cod roes, salmon roes, crab, cuttlefish, octopus.

COMPANY: **Kanekyo-Sanyu Reizo Co., Ltd.**
ADDRESS: Kachidoki Shuhan Bldg, 10-10, 7-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 3543-5318
FAX: (03) 3545-6071
TELEX: J 2523969 KANEKY J
PRODUCTS: All fishery products.

COMPANY: **Kanematsu Corporation**
ADDRESS: 2-1, 1-chome Shibaura, Minato-ku, Tokyo 104
PHONE: (03) 5540-9530
FAX: (03) 5540-6554
TELEX: J 22333/4
PRODUCTS: Eel, shrimp, lobster, octopus, cuttlefish, squid, salmon, crab, snapper and other fish.

COMPANY: **Kasho Co., Ltd. Tokyo**
ADDRESS: 14-9, 2-chome Nihonbashi, Chuo-ku, Tokyo 103
PHONE: (03) 3276-7630/5
FAX: (03) 3278-8280
TELEX: 222-2393
PRODUCTS: Shrimp, cuttlefish, kisu, salmon, crab, lobster, squid, mongo ika, abalone, clam, Loco, fish roe.

COMPANY: **Kawasho Corporation**
ADDRESS: World Trade Cntr Bldg, 4-1, 2-chome, Hamamatsucho Minato-ku, Tokyo 105
PHONE: (03) 3578-5645
FAX: (03) 3578-5927
TELEX: J 24277, J22511, J 24340
PRODUCTS: Salmon, salmon roe, shrimp, red fish, flatfish, squid, herring roe.

COMPANY: **Kinsho-Mataichi Corporation**
ADDRESS: 2 Shuwa Shinkawa Bldg, 24-1, 1-chome Shinkawa, Chuo-ku, Tokyo 104
PHONE: (03) 3297-7270
FAX: (03) 3297-7398
TELEX: J 22356
PRODUCTS: Cuttlefish, shrimp, mackerel, sole, cod.

COMPANY: **K.K. Ryosui**
(Diamond Seafoods Co., Ltd.)
ADDRESS: 1-17, 4-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 3543-2535
FAX: (03) 3546-1789
TELEX: 252-3931
PRODUCTS: Capelin, herring, king clip, merluza, red snapper, salmon, trout, capelin roes, herring roes, salmon roes, trout roes, shrimp, Arctic shrimp, lobster, crab, cuttlefish, squid, octopus.

COMPANY: **Koki Gyorui Co., Ltd.**
ADDRESS: Daiki Bldg, 7-5, 7-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 3543-1091
FAX: (03) 3546-1005
TELEX: 2522011 KOKIGY J
PRODUCTS: Salmon, salmon roe, herring, herring roe, sablefish, ocean perch, squid, butterfish.

COMPANY: **Kosei Trading Ltd.**
ADDRESS: Hirawada Bldg., No. 2, 2-5, 3-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 5565-5661
FAX: (03) 5565-5660
PRODUCTS: Bottomfish, herring, salmon, fish roes.

COMPANY: **Kyokuyo Co., Ltd.**
ADDRESS: 1-2, 2-chome Marunouchi, Chiyoda-ku, Tokyo 100
PHONE: (03) 3211-0154
FAX: (03) 3214-0196
TELEX: 222-2493 KYOKUA
PRODUCTS: Octopus, red fish, squid, mongo ika, capelin, butterfish, salmon, salmon roe, herring, herring roe, sablefish, tanner crab, shrimp, lobster.

COMPANY: **Marubeni Corporation**
ADDRESS: 4-2, 1-chome Ohtemachi, Chiyoda-ku, Tokyo 100
PHONE: (03) 3282-4701
FAX: (03) 3282-9654
TELEX: 2224441
PRODUCTS: Tuna, shrimp, cuttlefish, squid, red fish, salmon, herring, crab, surimi.

COMPANY: **Muruha Corporation**
ADDRESS: 1-2, 1-chome Ohtemachi, Chiyoda-ku, Tokyo 100
PHONE: (03) 3216-0212
FAX: (03) 3216-0316
PRODUCTS: Capelin, bottomfish, cod, sablefish, flounder, hake, herring, horse mackerel, pollock, salmon, skipjack, snapper, tuna, shrimp, lobster, crab, cuttlefish, squid, octopus, abalone, butterfish.

COMPANY: **Marubeni Reizo Co., Ltd.**
ADDRESS: 8FMS Shibaura Bldg, 13-23, 4-chome Shibaura, Minato-ku, Tokyo 108
PHONE: (03) 3769-0035
FAX: (03) 3769-0043
TELEX: 3242-4602
PRODUCTS: Capelin, capelin roe, snow crab, swimming crab, saury, rockfish, mackerel, abalone, lobster, herring, herring roe, salmon, salmon roe, herring roe on kelp, cod roe, octopus, cuttlefish, squid, cod, butterfish, sole, Greenland halibut, horse mackerel, flounder, red snapper, ocean perch, bottomfish, sablefish.

COMPANY: **Marudai Sato Suisan Corp.**
ADDRESS: 3-20, 6-chome 3-Jo, Nijuyonken, Nishi-ku, Sapporo, Hokkaido 063.
PHONE: 011-621-6111
FAX: 011-642-9274
TELEX: 932-288 MSATOJ
PRODUCTS: Salmon, crab, sea urchin

COMPANY: **Marukyo Cooperative Ltd.**
ADDRESS: 2-8-2, Sakanamachi, Ishinomaki, Miyagi 986
PHONE: 0225-93-2311
FAX: 0225-96-2158
PRODUCTS: Bottomfish, salmon, fish egg.

COMPANY: **Marushiki Fishing Co., Ltd.**
ADDRESS: 3F Kannon Bldg., 3, Shinmachi, Kanagawa-ku, Yokohama 221
PHONE: 045-461-5886
FAX: 045-461-5889
PRODUCTS: Sablefish, dory, tuna.

COMPANY: **Matsuoka Co., Ltd.**
ADDRESS: 10-12, 1-chome Higashiyamatomachi, Shimonoseki City, Yamaguchi Pref. 750
PHONE: (0832) 67-5566
FAX: (0832) 67-5286
TELEX: 6823-66 MATSU J
PRODUCTS: Dried squid, seaweeds, seasoned fish, eel, salmon, herring, sablefish, pollock roe, salmon roe, herring roe, red fish, octopus, cuttlefish, squid, sea bream, tuna, shrimp.

COMPANY: **Meiwa Trading Co., Ltd.**
ADDRESS: 3-1, 3-chome Marunouchi, Chiyoda-ku, Tokyo 100
PHONE: (03) 3240-9388
FAX: (03) 3240-9560
TELEX: J 2236,
PRODUCTS: Jellyfish, cuttlefish, squid, flyingfish eggs, herring roe, salmon roe, sea urchin, top shell, short neck clam, hard clam, eel, horse mackerel, spanish mackerel, skipjack & other bonito, albacore, tuna, swordfish, salmon, hairtails, croakers, sea bream, shark, shark fin, capelin, shrimp, lobster, crab, octopus.

COMPANY: **Mikasa Trading Co., Ltd.**
ADDRESS: Rm. No. 408 Nippon Bldg., 6-2, 2-chome Ohtemachi, Chiyoda-ku, Tokyo 100
PHONE: (03) 3270-7941
FAX: (03) 3245-0630
TELEX: J 25282
PRODUCTS: Tuna, surimi, pollock roes.

COMPANY: **Minoru International (Tokyo) Inc.**
ADDRESS: 4F Kotobuki Bldg., 10-5, 2-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 3545-0963
FAX: (03) 3543-0838
TELEX: 2524028 MINORU J
PRODUCTS: Cod, herring, red fish, salmon, herring roes, herring roes on kelp, salmon roes, sablefish.

COMPANY: **Mitsubishi Corporation**
ADDRESS: 3-1, 3-chome Marunouchi, Chiyoda-ku, Tokyo 100
PHONE: (03) 3210-6702
FAX: (03) 3210-3726
TELEX: J 22222/5, 222-2071, 6333
PRODUCTS: Tuna, skipjack, marlin, shrimp, lobster, salmon, salmon roe, herring, herring roe, cod, cod roe, red fish, capelin, crab, smelt, mullet roe, pollock roe, butterfish, octopus, cuttlefish, squid, snapper, shellfish, surimi, sablefish

COMPANY: **Mitsui & Co., Ltd.**
ADDRESS: 2-1, 1-chome Ohtemachi, Chiyoda-ku, Tokyo 100
PHONE: (03) 3285-6020
FAX: (03) 3285-9909
TELEX: J 22253
PRODUCTS: Tuna, skipjack, marlin, shrimp, lobster, salmon, salmon roe, herring, herring roe, king crab, octopus, cuttlefish, squid, mongo ika, loco, capelin, red snapper, surimi.

COMPANY: **Miyoshi Trading Co., Ltd.**
ADDRESS: 2F Ochiai Bldg., 10-7, 7-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 3546-8225
FAX: (03) 3546-8227
PRODUCTS: Red fish, salmon, shrimp, crab, sablefish.

COMPANY: **New Nippo Corporation**
ADDRESS: 1-1, 2-chome Uchisaiwaicho, Chiyoda-ku, Tokyo 100
PHONE: (03) 3506-5376
FAX: (03) 3591-3575
TELEX: 03-3591-3575
PRODUCTS: All fishery products.

COMPANY: **New Toyo Sea Foods Co., Ltd.**
ADDRESS: Ishikawa Bldg, 20-1, 2-chome Misakicho, Chiyoda-ku, Tokyo 101
PHONE: (03) 3262-4408
FAX: (03) 3263-6947
TELEX: J 25220 NEWFOOD
PRODUCTS: Shrimp, lobster, deepwater prawn, scampi, cuttlefish, squid, mongo ika, octopus, herring roe, red snapper, cod, sablefish.

COMPANY: **Nichimen Corporation**
ADDRESS: 13-1, 1-chome Kyoobashi, Chuo-ku, Tokyo 104
PHONE: (03) 3277-8291
FAX: (03) 3277-8266
TELEX: J 22329 NICHI
PRODUCTS: Shrimp, herring, salmon, crab, lobster, cuttlefish, squid, abalone, loco, lady fish.

COMPANY: **Nichirei Corporation**
ADDRESS: 19-20, 6-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 3248-2222
FAX: (03) 3248-2159
TELEX: J 22450
PRODUCTS: Tuna, squid, octopus, cuttlefish, shrimp, salmon, crab, squid, cuttlefish, herring, red fish, capelin.

COMPANY: **Nichiro Corporation**
ADDRESS: 12-1, 1-chome Yurakucho, Chiyoda-ku, Tokyo 100
PHONE: (03) 3240-6211
FAX: (03) 3287-2326
TELEX: 222-3661 NICHIR J
PRODUCTS: Salmon, salmon roe, herring, herring roe, crab, red fish, shrimp, lobster, cuttlefish, sea urchin, swordfish, octopus, squid, sea bream, tuna, butterfish, sablefish.

COMPANY: **Nippon Suisan Kaisha, Ltd.**
ADDRESS: 6-2, 2-chome Ohtemachi, Chiyoda-ku, Tokyo 100
PHONE: (03) 3244-7210
FAX: (03) 3244-7269
TELEX: NISSUI J 32221
PRODUCTS: Cod, flounder, halibut, herring, horse mackerel, sablefish, mackerel, pollock, red fish, salmon, trout, tuna, herring roes, pollock roes, salmon roes, surimi, shrimp, prawn, lobster, crab, cuttlefish, squid, octopus, shellfish, fish meal, fish oil.

COMPANY: **Nissho Iwai Corporation**
ADDRESS: Marine Products Dept.
4-5, 2-chome Akasaka, Minato-ku, Tokyo 107
PHONE: (03) 3588-3991
FAX: (03) 3588-4860
TELEX: J 22233
PRODUCTS: Tuna, shrimp, lobster, crab, cuttlefish, mongo ika, squid, octopus, shark fin.

COMPANY: **Nittetsu Shouji Co., Ltd.**
ADDRESS: General Merchandise Dept.
Toshiba Bldg., 1-1, 1-chome Shibaura, Minato-ku, Tokyo 105
PHONE: (03) 3798-2933
FAX: (03) 3798-2187
PRODUCTS: Halibut, surimi, salmon roes, crab, sea urchin.

COMPANY: **Nomura Trading Co., Ltd. Tokyo Branch**
ADDRESS: Shin-Yaesuguchi Bldg, 2-1, 2-chome Yaesu, Chuo-ku, Tokyo 104
PHONE: (03) 3277-4766
FAX: (03) 3274-3803
TELEX: J 63367 NOMURA A J63367
PRODUCTS: Shrimp, lobster, cuttlefish, squid, octopus, horse mackerel, sillago, abalone, clam, top shell, crab, salmon, salmon roe, herring roe, sablefish, red fish, butterfish, smelt, capelin, capelin roe, herring, flounder.

COMPANY: **Nosui Co., Ltd.**
ADDRESS: 2-1, 3-chome Tamagawa, Fukushimaku, Osaka 553
PHONE: (06) 443-8653
FAX: (06) 443-5655
TELEX: 252-4326
PRODUCTS: Shrimp, salmon, salmon roe, herring roe, cuttlefish, octopus, horse mackerel, crab, spanish mackerel, sablefish.

COMPANY: **Nozaki & Co., Ltd.**
ADDRESS: 16-19, 7-chome Ginza, Chuo-ku, Tokyo 104
PHONE: (03) 3542-9221
FAX: (03) 3545-2006
TELEX: J 22375
PRODUCTS: Salmon roe, herring roe, crab, sablefish, butterfish, jumbo octopus, cuttlefish, squid, capelin, capelin roe, shrimp, red fish, clam, abalone, top shell.

COMPANY: **Okaya & Co., Ltd.**
ADDRESS: 3F Ohtemachi Bldg., 6-1, 1-chome ohtemachi, Chiyoda-ku, Tokyo 100
PHONE: (03) 3214-8732
FAX: (03) 3214-8738
TELEX: J 2-2245
PRODUCTS: Shrimp, lobster, salmon, salmon roe, crab, herring, herring roe, bottomfish.

COMPANY: **Okura & Co., Ltd.**
ADDRESS: 5F Ohkurabekkan Bldg, 4-1, 3-chome Ginza, Chuo-ku, Tokyo 104
PHONE: (03) 3566-6580
FAX: (03) 3562-2779
TELEX: J 22306
PRODUCTS: Shrimp, king crab, snow crab, salmon, salmon roe, herring roe, sablefish, halibut, red fish, rock sole, ocean perch, herring, mackerel, horse mackerel, flounder, smelt, capelin, capelin roe.

COMPANY: **Osaka Uoichiba Co., Ltd.**
ADDRESS: 1-86, 1-chome Noda, Fukushima-ku, Osaka City 533
PHONE: (06) 466-2271
FAX: (06) 461-2283
TELEX: 524-2811
PRODUCTS: Surimi, pollock, pollock roe, herring, herring roe, salmon, salmon roe, eel, shrimp, squid, all marine products.

COMPANY: **Pegasus Foods Japan, Inc.**
ADDRESS: 1F Suisankaikan, 5-9, Toyomi-cho, Chuo-ku, Tokyo 104
PHONE: (03) 3532-1031
FAX: (03) 3532-1479
PRODUCTS: Bottom fish, salmon, crab, cuttlefish, fish roes.

COMPANY: **Sanyo Trading Co., Ltd. Head Office**
ADDRESS: 11, 2-chome Kanda-nishikicho, Chiyoda-ku, Tokyo 101
PHONE: (03) 3233-5882
FAX: (03) 3233-5917
TELEX: J 28470 PHOENIX
PRODUCTS: Shrimp, cuttlefish, octopus, baby clam, agar agar, mackerel.

COMPANY: **Schooner Trading Corporation**
ADDRESS: Tomizen Bldg, 11-4, 2-chome Ginza, Chuo-ku, Tokyo 04
PHONE: (03) 3545-6301
FAX: (03) 3545-8670
TELEX: 252-4124 SCHTRD J
PRODUCTS: Squid, herring, herring roe, capelin, crab, shrimp, red fish.

COMPANY: **Shibamoto & Co., Ltd.**
ADDRESS: 1-12, 1-chome Minato, Chuo-ku, Tokyo 104
PHONE: (03) 3552-4231
FAX: (03) 3552-4877
TELEX: J 23621 SHIBAMOTO
PRODUCTS: Shrimp, salmon, salmon roe, herring roe, sablefish, squid, red snapper, cuttlefish, loco.

COMPANY: **Shin Nihon Global Inc.**
ADDRESS: 3F SK Bldg, 13-19, 1-chome Shintomi, Chuo-ku, Tokyo 104
PHONE: (03) 3555-3600
FAX: (03) 3555-3601
TELEX: J 27607
PRODUCTS: Salmon, crab, shrimp, sablefish, red fish, halibut, herring, mackerel, salmon roe, herring roe, sea urchin.

COMPANY: **Shinyei Kaisha**
ADDRESS: 77-1, Kyomachi, Chuo-ku, Kobe 650
PHONE: (078) 392-6861
FAX: (078) 332-3127
TELEX: SHINYEI J 78830
PRODUCTS: Shrimp, lobster, butterfish, smelt, squid, red snapper, crab, whelk, clam, ark shell, abalone.

COMPANY: **Sumitomo Corporation (SC Marine Products Co., Ltd)**
ADDRESS: 4F Toyokawa Bldg,14-6, 5-chome Ginza, Chuo- ku, Tokyo 104
PHONE: (03) 3543-4910
FAX: (03) 3545-3458
TELEX: 222-2251 SUMIT J
PRODUCTS: Shrimp, deepwater shrimp, scampi, lobster, salmon, salmon roe, herring, herring roe, crab, sablefish, ocean perch, ladyfish, butterfish, squid, mongo ika, abalone, clam, smelt.

COMPANY: **Taito Seiko Co., Ltd.**
ADDRESS: Imaasa Bldg, 1-21, 1-chome Higashi-shinbashi, Minato-ku, Tokyo 105
PHONE: (03) 3572-3235
FAX: (03) 3571-7881
TELEX: J 25306
PRODUCTS: Tuna, squid, herring, capelin, capelin roe, red fish.

COMPANY: **Takaei Trading Co., Ltd.**
ADDRESS: 22-4, 6-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 3542-4791
FAX: (03) 3542-4794
TELEX: 2523736 TAKAEI J
PRODUCTS: Tuna, skipjack, marlin, shark, scallop.

COMPANY: **Takeichi & Co., Ltd.**
ADDRESS: 2F Fujimoto Bldg, 12-6, 3-chome Nihonbashi Kayaba-cho, Chuo-ku, Tokyo 103
PHONE: (03) 3669-9252
FAX: (03) 3669-3540
TELEX: J 23348 TAKESUN
PRODUCTS: Butterfish, squid, herring, herring roe, mackerel, red fish, lobster, crab, shrimp.

COMPANY: **The Marine Foods Corporation**
ADDRESS: 13-1, 3-chome Shibaura, Minato-ku, Tokyo 108
PHONE: (03) 3452-8121
FAX: (03) 3452-8912
PRODUCTS: Cuttlefish, jellyfish, top shell, abalone, scallop, squid, seaweed, sea urchin, octopus, surimi, clam, shrimp, cod, pollock, salmon, salmon roe.

COMPANY: **Toei Reefer Line, Ltd.**
ADDRESS: 6F, Kokusai Hamamatsucho Bldg, 9-18, 1-chome, Kaigan, Minato-ku, Tokyo 105
PHONE: (03) 3438-3203
FAX: (03) 3437-6176
TELEX: J 27529 FISHERY
PRODUCTS: Tuna, squid.

COMPANY: **Tohto Suisan Co., Ltd.**
ADDRESS: 2-1, 5-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 3541-5264
FAX: (03) 3541-6239
PRODUCTS: Fresh, frozen fish, salted fish roes.

COMPANY: **Tokusui Co., Ltd.**
ADDRESS: 5F Tokyo Suisan Kaikan Bldg, 4-18, Toyomicho, Chuo-ku, Tokyo 104
PHONE: (03) 3533-5131
FAX: (03) 3533-5173
TELEX: 2522697
PRODUCTS: Shrimp, tuna, sablefish, butterfish, crab, salmon, clam.

COMPANY: **Tokyo Commercial Co., Ltd.**
ADDRESS: Playguide Bldg, 6-4, 2-chome Ginza, Chuo-ku, Tokyo 104
PHONE: (03) 3562-2541
FAX: (03) 3564-6743
TELEX: 0252-2432
PRODUCTS: Tuna, marlin, shark, shrimp, lobster, red snapper, sea bream, salmon, crab, abalone, flounder, sole, octopus, cuttlefish, squid, ocean perch, pargo, blue fish, sablefish.

COMPANY: **Tokyo Maruichi Shoji Co., Ltd.**
ADDRESS: 16-9, 2-chome Uchikanda, Chiyoda-ku, Tokyo 101
PHONE: (03) 3256-1121
FAX: (03) 3256-1254
TELEX: TOKMARU J 22427
PRODUCTS: Salmon, crab, shrimp, herring, squid, capelin, capelin roe, perch, pollock roe, cod roe, herring roe, pollock, Pacific cod, arkshell meat, clam meat, abalone, seaweed, red snapper, silver, smelt.

COMPANY: **Tokyo Seafoods Ltd.**
ADDRESS: 5F Saiesta Bldg., 14-5, 2-chome Tsukiji, Chuo-ku, Tokyo 104
PHONE: (03) 5565-3511
FAX: (03) 5565-3524
TELEX: 2522527
PRODUCTS: Tuna, octopus, cuttlefish, squid, herring, salmon, crab, herring roe, salmon roe, cod roe, sablefish, red fish.

COMPANY: **Tomen Corporation**
ADDRESS: Marine Products Dept.
Kokusai Shin-akasaka Bldg., 1-20, 6-chome Akasaka
Minato-ku, Tokyo 107
PHONE: (03) 3588-6905
FAX: (03) 3588-9996
TELEX: J 22421
PRODUCTS: Capelin, flounder, herring, horse mackerel, mackerel, red fish, red snapper, salmon, sole, capelin roes, herring roes, herring roes on kelp, salmon roes, shrimp, lobster, crab, cuttlefish, squid, octopus, abalone, geoduck, jelly fish, sea urchin.

COMPANY: **Tomen Suisan Co., Ltd.**
ADDRESS: 14-11, 4-chome Ginza, Chuo-ku, Tokyo 104
PHONE: (03) 3542-3721
FAX: (03) 3546-9018
TELEX: J22421 TKXPU
PRODUCTS: Salmon, shrimp, squid.

COMPANY: **Toshoku Ltd.**
ADDRESS: 2-4, Nihonbashi Muromachi, Chuo-ku, Tokyo 103
PHONE: (03) 3245-2184
FAX: (03) 3245-2393
TELEX: J 22352
PRODUCTS: Tuna, squid.

COMPANY: **Toshoku Seafoods Ltd.**
ADDRESS: Sumitomo Tsukiji Bldg, 4-14, 5-chome Tsukiji,
Chuo-ku Tokyo 104
PHONE: (03) 3546-1171
FAX: (03) 3546-0491
TELEX: J 22352
PRODUCTS: Salmon, salmon roe, herring, herring roe, tuna, octopus, cuttlefish, squid, sablefish, red snapper, horse mackerel, crab, shrimp.

COMPANY: **Towa Foods Co., Ltd.**
ADDRESS: 2-1, North 3 East 3-Jo, Nishishoro, Shiranuka-cho,
Shiranuka-gun, Hokkaido 088-05
PHONE: (01547) 5-2014
FAX: (01547) 5-2329
PRODUCTS: Salmon roe, salmon, herring, herring roe.

COMPANY: **Toyo Suisan Kaisha, Ltd.**
ADDRESS: 13-40, 2-chome Kohnan, Minato-ku, Tokyo 108
PHONE: (03) 3458-5161
FAX: (03) 3474-8900
TELEX: J 28606
PRODUCTS: Salmon roe, herring roe, crab, shrimp, eel, wakame, bottomfish, salmon, capelin, horse mackerel, mackerel.

COMPANY: **Toyota Tsusho Corporation**
ADDRESS: Foodstuff Dept.
3-18, 2-chome Kudanminami, Chiyoda-ku, Tokyo 102
PHONE: (03) 3230-8081
FAX: (03) 3230-8042
TELEX: J 22827
PRODUCTS: Capelin, sablefish, herring, mackerel, red fish, salmon, tuna, shrimp, lobster, squid, wakame.

COMPANY: **Watarai Co., Ltd.**
ADDRESS: 7-10, 1-chome Shinhamacho, Shiogama, Miyagi 985
PHONE: (022) 364-0355
FAX: (022) 365-5799
TELEX: 72-0859250 WARAI J
PRODUCTS: Sablefish, cod, flat fish, red fish, sole.

Source: Japan Marine Products Importers Association 1993